# DOCUMENT RESUME

ED 125 805 RC 009 285

| | |
|---|---|
| AUTHOR | Rogers, David L., Ed.; Whiting, Larry R., Ed. |
| TITLE | Aspects of Planning for Public Services in Rural Areas. |
| INSTITUTION | North Central Regional Center for Rural Development, Ames, Iowa. |
| PUB DATE | Jun 76 |
| NOTE | 419p.; Monograph composed of papers presented at conference developed by the North Central Regional Center for Rural Development (Lincoln, Nebraska) |
| EDRS PRICE | MF-$0.83 HC-$22.09 Plus Postage. |
| DESCRIPTORS | Administrator Role; *Change Strategies; Citizen Participation; *Community Development; Conflict; Cost Effectiveness; *Delivery Systems; Interagency Coordination; Local Government; Methods; Models; *Planning; Political Influences; Research Criteria; *Rural Areas; Rural Development; *Social Services; Theories |

ABSTRACT

The result of a rural development conference, this publication emphasizes the theory of rural public service planning and is addressed to middle and/or top level planners and public administrators and/or researchers concerned with the delivery of public services. The objectives of this 12-paper collection are: to review existing methods and procedures for rural planning; to examine the consequences of these procedures; and to propose alternative priority and implementation strategies that might better reflect the special needs and problems of rural areas. Papers are titled as follows: (1) "Political Models and the Planning Function"; (2) "A Planning Framework for Rural Public Sector Analysis"; (3) "Citizen Participation in the Planning Process"; (4) "A Strategy for Establishing Planning Priorities"; (5) "Multiplicity of Local Governments: A Logical Explanation"; (6) "A Methodology for Planning Community Service Delivery under Scarcity and Conflict"; (7) "Planning Service Delivery Systems for Rural, Sparsely Populated Areas"; (8) "The Planner as Implementer: Planning Roles"; (9) "Cost and Benefits of Alternative Strategies for Interagency Coordination"; (10) "Administration and Politics in the Interorganizational Analysis"; (11) "Organizational Prerequisites for Land Use Planning to Integrate Public Services"; (12) "Linking Research with Planning: Some Implications and Approaches". (JC)

***********************************************************************
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
***********************************************************************

ED125805

JUL 1976
ERIC/CRESS
RECEIVED

# Aspects of Planning for Public Services in Rural Areas

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

NORTH CENTRAL REGIONAL CENTER FOR RURAL DEVELOPMENT

Iowa State University
of Science and Technology
107 Curtiss Hall
Ames, Iowa 50011

009285

# ASPECTS OF PLANNING FOR PUBLIC SERVICES IN RURAL AREAS

David L. Rogers

and

Larry R. Whiting, Editors

North Central Regional Center for Rural Development
108 Curtiss Hall
Iowa State University
Ames, Iowa 50011

June 1976

# FOREWORD

This publication is the result of a conference developed by the North Central Regional Center for Rural Development. The planning committee that helped in the development of the ideas for the conference included David L. Rogers, Regional Center; Daryl Hobbs, University of Missouri; Jim Hildreth, Farm Foundation; Tom Hady, U.S. Department of Agriculture; and Ray Vlasin, Michigan State University. The conference (held in Lincoln, Nebraska) consisted of papers presented by Ross Talbot, Dean Schreiner, and Ray Vlasin and a series of workshops organized around topics including the costs of service delivery, role of citizen participation, regional vs. local planning, setting planning priorities, evaluating planning activities, planning roles, and interagency coordination in planning and programming. Workshop organizers were invited to prepare chapters for this publication.

In those instances where the workshop leaders were unable to prepare chapters, other scholars were invited to provide additional chapters to better cover the topic of public service delivery. The authors of contributed chapters were asked to: (1) prepare material related to public services in rural areas, (2) to prepare documents for either middle-or top-level planners and public administrators, or for researchers who are conducting research on problems in the delivery of public services, and (3) to avoid a cookbook type of presentation, but instead to emphasize ideas rather than "how to do" procedures.

The basic premise of this publication is that public service delivery in rural areas is fragmented, often uncoordinated, and patterned in many instances on the economies of scale associated with more densely populated areas. Examples of the fragmented and uncoordinated nature of some delivery efforts is reflected in regional and state projects that are not linked to local decision making, and thus highways, area vocational schools, hospitals, etc., are placed irrespective of local needs. In some instances where local planning committees have been formed they have no legal basis and few resources with which to operate. Finally, the problems of delivering services over large geographical areas and of spreading the costs of these services over small numbers of people require alternatives to those delivery mechanisms used in large cities. It may be impossible to deliver public services with the same efficiency as in large cities, but is efficiency the most relevant criterion?

The purposes of this collection of readings are to review existing methods and procedures for planning in rural areas, to examine consequences of these procedures, and to propose alternative strategies and methods for establishing priorities and implementing plans that might better reflect the special needs and problems of nonmetropolitan areas. This publication seeks to provide answers for some of the major questions that occur in attempts to plan and organize public services.

The current philosophy of public service planning, including the types of allocative judgements and the responsibility for such judgements, is examined in selected chapters. Attention is given to the consistency between planning philosophies and other widely held values. Assumptions and consequences of current planning procedures and the congruence or incongruence of these assumptions between laymen and professional planners are examined.

Planning efforts in rural areas often are characterized as involving a duplication of services or of planning efforts, failure to provide needed services at an appropriate level, and as involving high costs of operation and maintenance for limited services. In some instances these characteristics may occur as a result of limited resources, but in other instances they may be the result of a lack of planning.

Planning systems, both agencies and the larger environment in which they operate, are in a constant flux and there is a continuing need for analysis of these systems. Selected chapters seek to examine which public organizations are charged with public sector planning responsibilities and to examine problems associated with sponsorship, legal basis, planning authority, and operational procedures. Other chapters explore the levels at which planning occurs and whether planning at each level is subordinate to, coordinated with, or independent of other planning levels.

Questions of responsibility, as well as of authority, continue to rise within the planning framework. For example, what is the role of the professional planner vis a vis lay committees, the role of planning commissions, or the role of informational and educational institutions? In the later case there is a need for greater clarification. How much coordination should occur among public agencies and what will be the costs and benefits of achieving these levels of coordination?

The dynamics of rural areas are quite different from those of metropolitan areas. These dynamics impact the planning system at several points. At the individual level, attention must be given to the attitude and value structures of rural populations especially as they impact decision making processes, and the implementation of service delivery programs. At the organizational level, attention must be given to type and number of public agencies, to agency mandates, to the assessment of costs and benefits of interagency programming, and to the need for centralized or professional organizational designs. Finally, at the societal level, attention needs to be given to the idealogical supports for our public services, and to national legislation that determines in large measure the programming efforts of individual agencies, their potential for interagency coordination, and their responsiveness to the needs of local residents for whom the public services are being provided.

David L. Rogers, Iowa State University
Larry R. Whiting, Iowa State University

# PREFACE

The issue facing local government appears to be very clear. For 200 years local government in virtually all rural areas of our nation has been a part-time job. I believe that at long last we have learned that part-time government begets part-time results. If a particular area wants such results, so be it. But there are many areas where citizens are demanding a level of services that requires full-time effort on the part of local governmental units.

Our parents and grandparents learned that they had to give full attention to their commercial and agricultural ventures to insure adequate success. It has taken us some time to transfer this specific finding to the more general area of the public sector.

Recent national opinion polls reveal that more than 50 percent of the people in our country would actually prefer to live on farms or in nonmetropolitan areas. Recent studies of 1973 and 1974 census population estimates reveal that nonmetropolitan areas are growing more rapidly than metropolitan areas. If we are able to free ourselves of previous constraints on settlement choice, it becomes more imperative that we develop a total but responsive system for planning for services in rural areas.

Over the next decades our technology in transportation and communication will develop to the extent that people will be more free to choose a residence in rural or nonmetro areas. For example, picture the ability to have two-way audio-video communication in your own home. Not only may the rural resident be able to conduct the normal, day-to-day business operations and activities from his own personal telecommunications terminal, but perhaps have the capability to "dial-up" major cultural or recreational performances and entertainment.

Assuming that for the most part the public sector will continue to be the major factor in the delivery of services in rural areas, more attention needs to be given to the use of interlocal agreements and other cooperative measures that permit the development of unique approaches for local government or combinations of local governments. This might be done to achieve a more full-time approach to local government without reaching the outer limits of fiscal resources.

During the past few years we have seen a movement on the part of federal agencies to develop a system of federal agency sponsored and funded groups at the local government level. The typical approach was to create an area-wide or multi-county federally-funded planning group, and it had the effect of making the federal agencies' jobs easier because it reduced the number of potential applicants (units of local government) and developed a ready-made local constituency for the individual federal agencies. During the development of these multijurisdiction groups, there was no consistency between the different requirements that each agency developed. Federal agencies resisted any attempt to develop common formation and planning requirements. As a result, local elected officials were faced with a new maize of inconsistent and often duplicative planning organizations. An attempt has been made to coordinate these programs on a geographic basis. The federal government has encouraged states to develop standard or uniform planning regions. For those states that have developed and adopted such standard regions, there is the opportunity for them to require these adverse multijurisdictional groups to conform to the common regional scheme. A new and potentially successful move is developing to bring about a physical consolidation of these programs under one multi-purpose regional council of elected officials. Some approach like this is necessary to achieve any degree of successful coordination of planning for rural services.

A top problem in state government is the coordination that must be brought about between institutions of higher education and the other state agencies concerned with rural development. Higher education is deeply involved in community development research and outreach programs. Because of higher education's more traditional role, the institution does not consider itself a state agency but, in fact, such an institution can have more impact than several of the more traditional state agencies.

There is a long tradition of poor communication between institutions of higher education and other state agencies. In the past, attempts have been made to solve the communication problem by informal cooperation on a one-to-one basis between individuals within the university and other state agencies. This approach is a poor and incomplete one because no one person had the authority or knowledge to act as a clearinghouse for all institution research and extension programs, and personnel change so rapidly at both ends that these informal links are continually being broken for long periods of time. A clearinghouse or planning unit at the institution systems level or one such unit across all higher education institutions is needed. Either mode would be an effective basis for moving forward with planning for rural public services.

W. Don Nelson, Director
Nebraska State Office
of Planning and Programming

CONTENTS

Page

Foreword ii

David Rogers and Larry Whiting
North Central Regional Center for Rural Development
Iowa State University

Preface vi

Don Nelson
Director
Nebraska State Office of Planning and Programming

1. Political Models and the Planning Function 1

Ross Talbot
Professor of Political Science
Iowa State University

2. A Planning Framework for Rural Public Sector Analysis 24

Dean Schreiner
Professor of Economics, Department of Agricultural Economics
Oklahoma State University

3. Citizen Participation in the Planning Process 81

John Van Es
Associate Professor, Departments of Agricultural Economics and Sociology
University of Illinois

4. A Strategy for Establishing Planning Priorities 106

Ivan Hanson
Associate Professor, Department of Health Administration
University of Oklahoma Health Sciences Center

5. Multiplicity of Local Governments: A Logical Explanation 129

Elinor Ostrom
Professor of Political Science
Indiana University

Page

6. A Methodology for Planning Community Service Delivery Under Scarcity and Conflict 175

Robert Crown
Head, Rural Affairs Unit, Economics Branch
Agriculture Canada, Ottawa

7. Planning Service Delivery Systems for Rural, Sparsely Populated Areas 202

Anne Williams
Assistant Professor of Sociology
Center for Interdisciplinary Studies
Montana State University

8. The Planner as Implementer: Planning Roles 235

Eric Freund
Professor of Urban and Regional Planning
University of Illinois

John A. Quinn
Associate Professor of Agricultural Economics
University of Illinois

9. Costs and Benefits of Alternative Strategies for Interagency Coordination 266

David Rogers
Associate Professor of Sociology
Iowa State University

10. Administration and Politics in the Interorganizational Analysis 309

Kenneth Benson
Professor of Sociology
University of Missouri-Columbia

11. Organizational Prerequisites for Land Use Planning to Integrate Public Services 336

Clyde Forrest
Professor of Urban and Regional Planning
University of Illinois

Page

12. Linking Research with Planning: Some Implications and Approaches 367

Raymond D. Vlasin
Professor and Chairman, Department of Resource Development
Michigan State University

Footnotes and reference citations
are listed at the end of each
chapter.

# CHAPTER ONE

## Political Models and the Planning Function

ROSS B. TALBOT

IN 1936 Harold D. Lasswell--then a professor of political science at the University of Chicago--wrote a book entitled, Politics: Who Gets, What, When, How [14]. Thereupon, the behavioral revolution was declared. Political scientists were no longer to be concerned, at least primarily, with the history of political institutions or the constitutional framework and administrative structure of those institutions and certainly not with normative (value) propositions about ideals or semi-utopian concepts as to how government should function. Rather they were to employ empirical, quantitative-type research methods which would develop over time a kind of general theory to explain the how's and why's of political behavior within the American political system, and eventually, for all forms and types of political systems. The discipline of political science has been split ever since the inauguration of this "behavioral revolution," although even now we may be moving into what has recently been referred to as "the post-behavioral era."

This controversy has its own fascinations and frustrations, but they are of little significance to us in this discussion. Of immediate concern is the behavioral concept of "models." Davies and Lewis have posed this proposition quite nicely: "...if one can discern laws in the behavior of individuals, in the behavior of groups of individuals, or in the behavior of institutions constituted by individuals, then it is possible to create models of such behavior or activity" [6].

Whether political scientists have ever discovered any so-called "laws" or will ever do so is debatable, but we can make at least one positive statement on this matter: Political scientists are not at all in agreement as to what model or models should be used in order to explain the behavior patterns within the American political system. There are at least six models which may be of help in understanding political life in the United States[1]--institutionalism model, elitism model, interest group model, incrementalism model, systems theory model, and political economy-social choice model (the "rational model," to use Dye's terminology).

Before briefly describing each of these models, let us keep in mind how this concept of model building is supposed to help us. Relative to the case at hand, models are designed to be useful in explaining who gets what, when, and how when it comes to planning, deciding on, and delivering public service in rural areas. The model should be so "congruent with reality" (Dye's phrase) that it will enable us to identify with a reasonable degree of clarity and orderliness who are the winners, the losers, and the bystanders in relation to the enactment and consequences of some particular rural policy or policies.

1. The institutionalism model: Political institutions acquire legitimacy through the election of public officials, who thereupon enact and administer laws and are periodically responsible to the electorate for either their retention or dismissal. To understand who gets what from the functions of these institutions, we need to understand their internal

operations. If they do not function "properly," then the institution itself needs to be reorganized, restructured, or perhaps replaced. An excellent example of this type of model is found in Lancaster's Government in Rural America [13].[2]

2. The elitism model: Dye and Zeigler contend that "the central proposition of elitism is that all societies are divided into two classes--the few who govern and the many who are governed." Moreover, "elites, not masses govern America," and these "...elites are drawn from a society's upper classes, which are made up of those persons...who own or control a disproportionate share of the societal institutions--industry, commerce, finance, education, military, communications, civic affairs and law." In turn, "elitism assumes that the masses are largely passive, apathetic, and ill-informed." Consequently, "...the irony of democracy (that is) elites must govern wisely if government 'by the people' is to survive [9, Chpt. 1]. The elitism model is implicit in McConnell's study of national farm policy as it is molded and influenced since the early 1930s by the American Farm Bureau Federation [19].

3. The interest-group model: The classic analysis is still Federalist Paper No. 10; the modern version of most prominent renown is Truman's The Governmental Process [33]. Truman assumes that it is man's nature to form himself into a group or groups of persons who hold shared attitudes; these groups then organize and move into the political and governmental institutions in an attempt to get what they desire or to prevent from happening what they believe to be contrary to the interests of the group. This model has many sophistications and ramifications, some of which were

described, explained, and evaluated a few years ago relative to farm organizations in the United States [32]. In terms of this model, policy is forthcoming from the group struggle. Pressure groups, often in conflict, move into the halls of the legislatures and the offices of the bureaucracies in search of a policy which will enhance their economic, social and political interests (or what they at least perceive to be those interests).

4. The incrementalism model: In essence, this model is saying that in the American political system the necessary course of action to follow if one desires to bring about legislative change is to understand present legislation and the ways in which it has been implemented. Then, strive for an additional increment or two--which usually means X-number of more dollars and(or) minor increases in authority. The examples of incrementalism in action are legion in American politics. Trace sometime the growth of federal legislation pertaining to rural development, beginning with Senator Paul Douglas' (Dem., Ill.) introduction of a "depressed areas" bill (S.2663) in the First session of the 84th Congress (July 23, 1955) and ending, for the time being, with President Nixon's approval of the Rural Development Act of 1972 on August 30, 1972 [30].

A few years ago I was privileged to participate in a conference at which the past, present, and anticipated future of land legislation in the United States were discussed; a commemoration conference, so to speak, in honor of the Homestead Act passed in 1862. My paper proved, at least to my satisfaction, that the most certain predictor as to federal appropriations for the natural resource agencies of both the Department of

Agriculture and the Department of Interior was to ascertain the amount of appropriations which had been provided for in the prior year [31]. The incremental increase, or decrease, took place through a mutual adjustment process in which the interested groups worked out an acceptable compromise or accommodation. Incrementalism is a conservative strategy, but it fits in well with the diffused and decentralized character of the American political system. It is, to use the somewhat unfortunate but oft-repeated phrase of Lindblom, "the science of muddling through" [16].[3] That is, complex decision making in the American political system is not synoptic (or systematic) but is fragmented, disjointed, and incremental.

5. The systems theory model: Easton's "systems analysis of political life" is a general theory of politics, a framework for analysis which will enable us to bring into play all the major variables outside the political institutions which have a discernible impact on the kinds of laws, directives, and decisions produced [10]. It is an input type of analysis which compels the user to assess the impact of social and economic variables on the political system in order to understand the kinds of output that the system will generate. The process is dialectical in that the output (that is, policy) produces "feedback" which comes to be a form of input back into the political system. With time, imagination, and available data, this model could be used to show us how the same Congress can appropriate considerable sums of money to take land out of production in Nebraska and, at the same time, appropriate not inconsiderable sums to put other land into production in Nebraska. And all the while we accept this process as providing for an "authoritative allocation of values" within the American society.

6. The political economy/social choice model: Many economists and a few political scientists are working with this model. It is an ultra-sophistication of the utilitarian concept of decision making based on a calculation of the greatest good for the greatest number of persons over the longest possible period of time. The variations of this model often take on a highly mathematical-statistical framework of calculation, with the objective being to determine how "society" can be purely rational and technically efficient in making operational "societal values." The report of the National Water Commission seems, unfortunately, to have fallen rather stillborn from the press [4]. But at least some of the recommendations in that report seem to have been developed from this particular kind of model. In addition to these major types of political model-building are the insights of Almond's structural-functional model and Deutsch's communications theory model [1; 7].

## THE PLANNING FUNCTION

Let us consider the planning function and its relation to the development and administration of public poliices in rural America. Odegard believes that "the job of the planner is to make the good possible. It is a process of facilitating wiser policies....Planning deals, not with predictions, but with intentions and the tapping of relevant knowing" [24, p. 333]. Many of the articles in the January 1973 issue of The Annals [20] gave these general impressions: (1) planning is one element among many in the political process; (2) as the concept and scope of planning--the function has become more of an art than a science; and (3) one should view this development of the planning art in terms of a very long-range historical perspective.[4]

It would be futile to attempt even a sketch of the historical development of the planning function in rural America. Nevertheless, a few generalizations seem appropriate relative to planning for public services in rural areas.

First, throughout the 19th century the federal government played an obvious and important role in the economic and social transformation of this nation through functioning as a disposer of land--some free, some sold at bargain prices, some "squatted" into fee simple ownership. The national ideology was the family farm, Jeffersonian agrarian democracy, the indelible myth of the free and independent farmer. The pervasive force of this ideology is still felt today, even though only 4.5 percent of the population is classified as farmers in 1973, and that figure itself is grossly inflated if one is trying to count only bona fide farmers. We simply have never developed a small city (community) ideology in America, one which would equate at least crudely with the concept of community which undergirded the Athenian polity. Even as late as 1972, Senator Herman Talmadge (Dem., Ga.) was orating to his colleagues in these terms: "The (Senate) committee (on Agriculture and Forestry) is convinced that the fundamental foundation of increased rural prosperity is good and stable farm family income [34, p. 46]. Perhaps so, but in 1970, some 68,146,764 persons were living in places of 10,000 or less--i.e., 33.5 percent of the population; 55.3 percent of all Americans were then living in places of 25,000 or less.

Secondly, it might have been possible to have developed a small community ideology in the 1930s (this "lost opportunity" hypothesis is certainly open to debate). But what did develop was a set of interlocking triangles of power (whirlpools of power, to use Ernest Griffith's phrase) in which farmer-interest groups, House and Senate Agriculture Committees, the ancillary but crucially important Agriculture Appropriations subcommittees, and some of bureaucracies in the USDA developed an effective coalition of interests which, even today, is remarkably successful in sustaining or amending farm legislation.[5] The evidence was then available that the technological revolution would eventually destroy the small farm and undermine the reason-for-being of the small town. Likewise, the viability of the concept of agrarian democracy was steadily undermined, but no authentic alternative seemed to be available.

Third, in consequence there is no national policy relative to small- and medium-sized communities. Wrigley claims "...there is a growing realization that an overall national growth policy must be formulated and adopted" [20, p. 63], and Tunnard points to "...the pressing need to change the settlement pattern drastically" [20, p. 103]. We have no national ideology for small-city America which even closely approximates the political efficacy, even yet today, of agricultural fundamentalism.

Fourth, what we do have, in terms of a national policy for rural America, is a set of programs which "...are woefully out of date," according to the 1967 report of the President's National Advisory Commission on Rural Poverty [25]. The accuracy of this damning charge seems to have been lessened by the establishment of economic development districts in "depressed areas" under the jurisdiction of the Department of Commerce's Economic Development Administration, and of nonmetropolitan districts (NMD's) under the aegis of HUD of the USDA. Also, the Rural Development Act of 1972 has given the USDA at least the statutory authority to revitalize and coordinate several rural development policies which are administered by bureaus within that department--more specifically, Farmers Home Administration, Federal Extension Service, Rural Electrification Administration, and the Soil Conservation Service. Finally, there is a whole conglomerate of programs which are largely spillovers from urban programs into rural areas.

According to a publication originally published by the Independent Bankers Association of America, then revised by John Baker (an assistant secretary in Freeman's USDA), there were some 494 programs available for rural development [28, p. 5]. Rather blithely, the study notes that "eight other Cabinet-level departments, three Executive Offices, sixteen Independent agencies, and twelve Special Commissions also sponsor and operate domestic assistance programs that are available to rural areas--either nationwide, or in designated geographic areas," although there does follow an admission that these "...bureaucratic distinctions are often a source of frustration and confusion to local officials and private citizens who are starting out to seek assistance" [28, p. 8]. Sundquist reported that "the most frequent complaint against this overlapping structure was the strain it imposed upon the limited resources of rural leadership," and one expert avowed that "the greatest difficulty (in) this area now is the shortage of leadership talent [29, pp. 201, 167].

Perhaps the principal impediment encountered in the planning function, relative to rural America, is that there is still really no pervasive sense of national purpose. In all fairness it must be noted that Section 901 (a) in Title IX of the Agricultural Act of 1970 does read as follows: "The Congress commits itself to a sound balance between rural and urban America (and) ...considers this balance so essential to peace, prosperity, and welfare of all our citizens that the highest priority must be given to the revitalization and development of rural areas." Nevertheless, there has been nothing like the sense of commitment and dedication to this "highest priority" comparable to that which characterized the atomic energy and space program.

The Rural Development Act of 1972 contains some 51 sections; if properly funded many unsystematic experiments and some progress would almost surely be forthcoming. According to Senator Talmadge, the principal thrust of the law "...is toward providing jobs and increased business income in rural America through encouragement of rural industrialization and increased business activity and income" [34, p. 49]. Certainly jobs and income are important elements in community development, but without effective planning, coordination, and integration, within some coherent national administrative framework, it would seem that "...to encourage development through private enterprise" [34] might compound rather than alleviate many of the social and economic problems in rural America. However, it is doubtful that the Rural Development Act will be implemented in any energetic fashion. The President's budget for fiscal 1974 hardly more than alluded to rural development; in its wide-ranging analysis of the federal budget for fiscal 1973, the Brookings Institution's staff was almost silent on the matter of rural development [27]; the more radical-liberal National Urban Coalition developed its own "counterbudget" for fiscal years 1971-76, but there is only a page or two about the need for federal support of "growth centers" in rural areas which would then be serviced primarily through the Economic Development Administration [3].

The impoundment of appropriated funds by the Nixon Administration transformed positive long-range planning into an impossibility. Even the gradual release of some of these funds seemed to be guided more by an attitude of callousness rather than compassion. Reflect, for example, on the humane quality of the remark by Roy Ash, Director of the Office of Management and Budget (OMB), to the effect that it is not the "role of the federal government to overcome everybody's error of judgment as to where to live."[6] Even more startling was the OMB's revelation that "programs to encourage conservation practices on private lands originated many years ago and have generally achieved their objectives. Therefore, subsidies under the rural environmental assistance program are being terminated" [2].

The planning function for the next few years seems to be one of trying to survive in a tenterhooks-type of political environment, waiting the dreaded moment as to where and when the next swift slash of OMB's buillotine will be directed.

On the other hand, the incredible proliferation of federal grant-in-aid programs was faintly beginning to take on the odor of the Augean stables. It would seem that the Nixon Administration assumed the responsibility for cleansing the stables rather than reordering and restocking them, but perhaps this is the proper function of the conservative party. Also, we must keep in mind that the American political system was never designed to be organic in purpose, orderly in function, or monolithic in organization. Quite to the contrary, no one is supposed to be able to get what he really wants. Nor is any organized group likely to receive less than its minimal expectations, although this generalization is subject to serious question when it comes to evaluating the power position of low income, unorganized persons.

## THE PLANNING FUNCTION AND POLICY MODELS

Since this chapter is aimed primarily at public officials, private citizens who are also community leaders, representatives of interest groups, and academicians, an important question comes to be: Of what value to us can these political models be in our day-to-day activities? The value of political models depends, to a major extent, on the political acumen of the person who is using them. We must be electic, selecting here and discarding there, after making our evaluation of the political climate, the variegations of the issue at hand, the depth and intensity of the feelings which have been aroused, and the styles, personalities, and ideologies of those who are in leadership roles in whatever political situation we find ourselves involved in or anticipating.

The institutionalism model is useful in understanding the inflexibilities of county government relative to issues concerning growth and experimentation in areas of public policy. State governments, especially in the more rural-dominated states, such as Iowa and Nebraska, have been somewhat more willing than counties to modernize and innovate, but even at the state level the necessity of paying for quality personnel and then providing them with sufficient authority to do quality work is largely unrecognized by state legislatures and the citizenry.

The elitism model suffers from over-exaggeration when its adherents advance the concept of a ruling elite, although political scientists are perhaps too satisfied with the plural-elite variation of that model. In any respect a vital element in the planning function must be the discovery, nourishment, and development of what Thomas Jefferson referred to as the "natural aristocracy." Paradoxically, perhaps, the participatory democracy model may make its primary contribution in providing the kind of an environment in which the natural aristocracy can be heard, gain experience in public debate, and move toward positions of authority and responsibility.

The interest group model is almost self-evident to a public administrator. The effectiveness, or even the existence, of interest group representation correlates quite closely with class structure and income level. Small town America is under-represented in the policy process and low income, lower middle class, rural Americans have even less influence. Consequently, there are serious value questions involved, relative to equity issues forthcoming from the interest-group, decision-making process.

The incrementalism model seems to be essentially a strategy and tactics concept used by those triangulations, or whirlpools, of power referred to earlier. One sees this model in action when reviewing the gradual development of federal air and water pollution legislation from the early 1950s to the Clean Air Act Amendments of 1970 and the Federal Water Pollution Control Act of 1972. However, two major criticisms have been made of this model: one, it does not account for the origin of new legislation, and secondly, some so-called increments, such as the two acts noted above, can be viewed as substantively new, rather than incremental, legislation.

The systems model is important to us as an analytical device. Through the use of an intellectual framework which at least approximates an input-output-feedback type of process, we can learn much about political decision making in the United States. All the same the American society is so mobile, inchoate, pragmatic, and diversified that one questions how effectively the model can be used if one desires to be influential in the decision-making process. However, we should not oversimplify the complex nor be overwhelmed by all the complexities. This model should help us to identify the variables; those who are politically active will have to do the weighing and judging relative to strategy and tactics.

The political economy/social choice model is both too rational and too comprehensive. Even so, it is rather illogical to argue against a model which is trying to improve an individual's personal capacity to make rational decisions and the nation's capacity to search out and articulate national goals. Subsequently, of course, rational, comprehensive planning assumes that these national goals will be programmed for achievement. It seems this model has certain heuristic qualities which make it useful, even exciting, as a teaching and research device. However, it is potentially a very dangerous model if we should come to believe the assumptions contained in it. Dye hypothesizes some 12 obstacles to the utilization of this model [8, p. 29].[7] His rather disheartening conclusion is to the effect that "...there are so many barriers to rational decision-making that it rarely takes place at all in government" [8, p. 29].

It seems to be true that empirical models almost always take on a normative complexion. We may prefer one model over another because it explains better our own set of beliefs and valuations. More precisely, each of us has a particular view of human nature, a predilection as to where we are and wish to be in the social structure, and a more or less coherent picture of what we view the good life to be.

Also, we might be convinced of the operational qualitites of a particular model, while at the same time we are philosophically or ideologically repelled by the model. As referred to earlier, the two authors--Thomas Dye and Harmon Ziegler--who wrote The Irony of Democracy find the elitist model persuasive relative to their interpretation of who gets what, and how in the American political system. Nevertheless, "one author values radical reform as a means of establishing a truly democratic political system in America...(while) the other author values an enlightened leadership system capable of acting decisively to preserve individual freedom, human dignity, and the value of life, libery and property" [9, p. vii].

More than likely all these models are useful in explaining some aspect of the functioning of our political system. How they interact and interrelate when major issues are being confronted will determine whether any notable policy change will occur. Moynihan's study concerns how we came remarkably close to having a national guaranteed income program [21].

It is an entertaining case study and provides much useful background for a testing of the models' concept.

Sundquist posits the value proposition that "the object of the federal government (in community development) must...be to realize the superior potential of the community-level process" [29, p. 250]. In his judgment, "the overriding aim must be to perfect the planning and coordinating machinery in the thousands of communities that comprise the country. Then, as the machinery begins to measure up to its promise and gains in competence, the conscious policy of the federal government as a whole--and, hopefully, the state governments as well--should be to defer increasingly to local judgments." He observes, however, that "much is lost...if the federal government fails to exert leadership" [29, pp. 250-251]. This author suggests that no such political leadership is likely to be forthcoming, even from an active-positive type President--to use Barber's terminology [2]--unless there is something like a massive reorganization of the Federal Executive Branch. That is, it will require some type of reorganization such as former President Nixon proposed to Congress on March 25, 1971, in which there was to be the abolishment of seven of the "domestic" departments (also except Justice and the Treasury) and a restructuring of their bureaus and functions into four departments--Community Development, Economic Affairs, Human Resources, and Natural Resources [11].

The empirical models we have discussed will help us explain why Nixon was stymied by a "reluctant Congress" and what he considered to be an "unresponsive bureaucracy" [5]. Of far more significance (viewing the situation now from hindsight) they should be useful in providing us with additional insight and perspective into the "why's" and what ifs" of the Watergate episode.[8]

This brooding and ominous struggle between the Presidency and the Congress is of vast significance to each of us. To the extent that it is possible, we should add our weight to whichever side we choose--and there are alternatives other than victory for the divine right of president's theory as contrasted to that of parliamentary supremacy. In the interim, however, each of us must also be concerned about more mundane matters, such as planning for public services in rural areas.

There are those day-to-day responsibilities which must be carried on, to be sure, but all of us should continue to engage ourselves seriously in the study of what might be termed "public policy education." One's offhand reaction to such a proposition might take several forms, but the one I am trying to stress is that there are several difficulties in specifying even the content of public policy issues. Rivlin's "propositions," and the limitations thereof, seem to outline the boundaries of our dilemma. Her first proposition is that "considerable progress has been made in identifying and measuring social problems in our society" [26, p. 6]. It is doubtful that more than a very few understand what this "considerable progress" has been, or how to go about doing this "identifying and measuring." Her second proposition is that "systematic analysis has improved our knowledge of the distribution of the initial costs and benefits of social action programs." Perhaps so, but few know how to make such calculations in terms of "who wins and who loses."

Rivlin's third proposition is negative: "Little progress has been made in comparing the benefits of different social action programs." For economic and social reasons it would almost certainly be advantageous to policy educators if this proposition could be made positive, but the value assumptions involved are so pervasive and immeasurable she doubts that "...this situation is temporary or that it matters much...." [26. p. 7].

Her fourth proposition is clearly more disturbing: "Little is known about how to produce more effective health, education and other social services." To some this would bring forth the response--just so, so why try? At the risk of sounding a bit old-fashioned, the transcendental answer is: because we must. Our increased understanding of who it is that gets what, and who does not, leads us on a search for ways to discover how we can do better. To help us in our quest, Rivlin offers the interesting suggestions of random innovation and systematic experimentation [26, Chpt. 5].

Those of us who profess to believe in the operative ideals of democracy must never lose our sense of optimism. Oakeshott must surely be wrong when he claims that "(this) world is the best of all possible worlds and everything in it is a necessary evil" [23]. On the other hand, there should always be prevalent a style of healthy skepticism. James Madison reached the frightful conclusion that "so strong is this propensity of mankind to fall into mutual animosity, that where no substantial occasion presents itself, the most frivolous and fanciful distinctions have been sufficient to kindle their unfriendly passions and excite their most violent conflicts." So it has been, we can say; must it ever be is still the question.

## FOOTNOTES

1. With some rearranging and retitling, the analysis of political models which follows is based primarily on Dye's work [8]. Other studies of considerable help to the author in preparing this study were Sundquist, Rivlin, Odegard, and MacMahon [18; 24; 26; 29].
2. A second edition was published in 1952. Actually, Lancaster's analysis goes beyond the basic assumptions which are implicit in the institutionalism model.
3. For a much more sophisticated analysis, see his study entitled The Intelligency of Democracy [15].
4. See, as a case in point, the article by Tunnard [20, pp. 95-102].
5. This theme is beautifully developed by Lowi [17].
6. Quoted in the National Farmers Union's Washington Newsletter, April 13, 1973, p. 1.
7. A useful and relatively brief introduction to this model is found in Wade and Curry [35]. Perhaps it has not been sufficiently stressed in this chapter that this model is normative by intent.
8. A valuable analysis, based on a concept of external and internal "constraints," is presented by Neustadt [22].

## REFERENCES

1. Almond, G.A. and J. Coleman, eds. 1960. The politics of developing areas. Princeton, N.J.: Princeton University Press.

2. Barber, James David. 1972. The Presidential character: Predicting performance in the White House. Englewood Cliffs, N.J.: Prentice-Hall, Inc.

3. Benson, Robert S., and Harold Wolman, eds. 1971. Counterbudget: A blueprint for changing national priorities, 1971-76. New York: Praeger Publishers, pp. 192-3.

4. Congressional Quarterly, Inc. 1973. Weekly Report, Jan. 6, pp. 28-30.

5. ______. 1973. Weekly Report, Jan. 13, p. 36.

6. Davies, Morton R., and Vaughan A. Lewis. 1971. Models of political systems. New York: Praeger Publishers, p. 18.

7. Deutsch, Karl W. 1963. The nerves of government. Glencoe, Ill.: The Free Press.

8. Dye, Thomas R. 1972. Understanding public policy. Englewood Cliffs: N.J.: Prentice-Hall, Inc., Chpt. 2 and passim.

9. ______, and L. Harmon Ziegler. 1970. The irony of democracy: An uncommon introduction to American politics. Belmont, Calif.: Wadsworth Publishing Co.

10. Easton, David. 1965. A systems analysis of political life. New York: John Wiley and Sons.

11. Executive Office of the President, Office of Management and Budget. 1971. Papers relating to the President's departmental reorganization

*program*. Washington, D.C.: U.S. Government Printing Office, March, p. 288.

12. _______. 1973. *The U.S. budget in brief, fiscal 1974*. Washington, D.C.: U.S. Government Printing Office, p. 37.

13. Lancaster, Lane. 1937. *Government in rural America*. New York: D. Van Nostrand and Company.

14. Lasswell, Harold D. 1936. *Who Gets What, When, How*. Hightstown, N.J.: NcGraw-Hill Book Co.

15. Lindblom, Charles E. 1965. *Intelligence of democracy, The*. New York: The Free Press.

16. _______. 1959. Science of muddling through, The. *Public Administration Review*, Spring, pp. 79-88.

17. Lowi, Theodore. 1969. *The end of liberalism*. New York: W.W. Norton and Co.

18. MacMahon, Arthur W. 1972. *Administering federalism in a democracy*. New York: Oxford University Press.

19. McConnell, Grant. 1953. *The decline of agrarian democracy*. Berkeley: University of California Press.

20. Mott, George Fox, ed. 1973. Urban change and the planning syndrome. *The Annals* (of the American Academy of Political and Social Science), Jan.

21. Moynihan, Daniel. 1973. *Politics of a guaranteed income: The Nixon Administration and the family assistance plan*. New York: Random House.

22. Neustadt, Richard E. 1974. The Constraining of the President: The Presidency after Watergate. British Journal of Political Science. Oct., pp. 383-397.

23. Oakeshott, Michael. 1951. Political education. Cambridge: Bowes and Bowes, p. 28.

24. Odegard, Holtan P. 1971. The politics of truth: Toward reconstruction in democracy. University: The University of Alabama Press.

25. President's National Advisory Commission on Rural Poverty. 1967. The people left behind. Washington, D.C.: Government Printing Office, Sept., p. ix.

26. Rivlin, Alice M. 1971. Systematic thinking for social action. Washington, D.C.: The Brookings Institution.

27. Schultze, Charles L., et al.. 1972. Setting national priorities: The 1973 budget. Washington, D.C.: The Brookings Institution.

28. Senate Committee on Agriculture and Forestry. 1971. Guide to federal programs for rural development. Document 92-54, 92nd Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office, Dec. 17.

29. Sundquist, James L. 1969. Making federalism work: A study of program coordination at the community level. Washington, D.C.: The Brookings Institution.

30. _______. 1968. Politics and policy: The Eisenhower, Kennedy, and Johnson years. Washington, D.C., pp. 60-73.

31. Talbot, Ross B. 1963. The political forces. In Howard W. Ottoson, ed., Land use and problems in the United States. Lincoln: University of Nebraska.

32. _______, and Don F. Hadwiger. 1968. *The policy process in American agriculture*. San Francisco: Chandler Publishing Co.

33. Truman, David B. 1951. *The governmental process*. New York: Alfred A. Knoph, Inc.

34. United States Senate, Committee on Agriculture and Forestry. 1972. *The rural development act of 1972--Analysis and explanation*. Public Law 92-419, 92nd Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office, Oct. 3.

35. Wade, L.L., and R.L. Curry, Jr. 1970. *A logic of public policy: Aspects of political economy*. Belmont, Calif.: Wadsworth Publishing Co., Inc.

36. Whalen, Richard J. 1973. The pleasures of defeat. *Harper's*, April, p. 22.

# CHAPTER TWO

## A Planning Framework For Rural Public Sector Analysis

DEAN F. SCHREINER

RURAL DEVELOPMENT is frequently defined not only as providing jobs and increased incomes to rural people but also making available a quality of rural living through increased and improved community services. Community services signifies public ownership and/or public participation in a set of activities by a group of individuals with a common location. Community services means providing educational services to the inhabitants of a delineated school district for their human resource development; it means building and maintaining public roads in a county for use by jurisdictional property owners, jurisdictional nonproperty owning residents, and nonjurisdictional visitors. Compensation for use of community services may be through public taxation, user fees, or market transactions. The important characteristic of community services is that of collective or group decision making in determining a degree of participation.

Rural America has long been noted for its cohesive societal, fraternal, occupational, and communal groups. Volunteer firemen associations, farmer and consumer cooperatives, and rural electric associations are examples of how rural groups have organized to provide community services. But the pace of traditional methods used to deliver community services has not been adequate to meet increased public demand and has been further exacerbated by dynamic changes in rural economies and rural societies. Major advances in technology, increased demand for improved quality of community services, and environmental controls on use of natural resources have created conditions for faster change in rural systems.

Answers to two important questions are essential for planning the availability of community services in rural regions: (1) What is the expected number and spatial distribution of jobs and people in rural regions during future time periods, and (2) what is the expected form and quality of community services that will be desired over a planning period? Basic economic principles within the constraints imposed by national policy can be used to determine expected spatial location of jobs. Comparative advantage in the location of economic activity can be computed on the basis of relative industry profits as reflected through regional differences in raw material prices, wage and salary payments, and product prices. General location of people is restricted by location of jobs. However, specific residential location patterns near jobs are determined by peoples' preferences, tastes, and incomes. Even within these constraints the residential location alternatives are ever increasing because of new technologies and greater incomes.

For some rural regions, however, the ability to supply adequate community services is declining. The greatest demand shifter for community services is that of population and its subsequent revenue base. Losses of population in rural regions shifts the demand curve to the left and frequently pushes the unit cost higher because of economies of size in supplying services. The Great Plains states[1] in particular have been influenced by population losses with the subsequent effect on community services. About 67 percent of the non-SMSA counties in these states witnessed population losses between 1940 and 1960 and the same percentage witnessed losses between 1960 and 1970.

Maintaining or improving quality of community services is generally more difficult in rural regions, such as in the Great Plains, than in more populated urban areas. Quality of service is frequently correlated with specialization of functions. The size of population bases in rural regions less frequently permits specialization. Average density for all non-SMSA counties of the Great Plains in 1970 was about 15,000 population, with those counties 100 miles or more distant from an urban center of at least 300,000 having a density of only 11,000. A group of about eight to ten counties constituting a rural region would have about 100,000 population or the size of a small SMSA [12].

Planning community services for a rural region with a population base comparable to a small SMSA requires a substantially more varied data base. Not only does the rural region have the same data requirements of the small SMSA, but it also must deal with problems of sparsity in population density and a multitude of local government bodies.

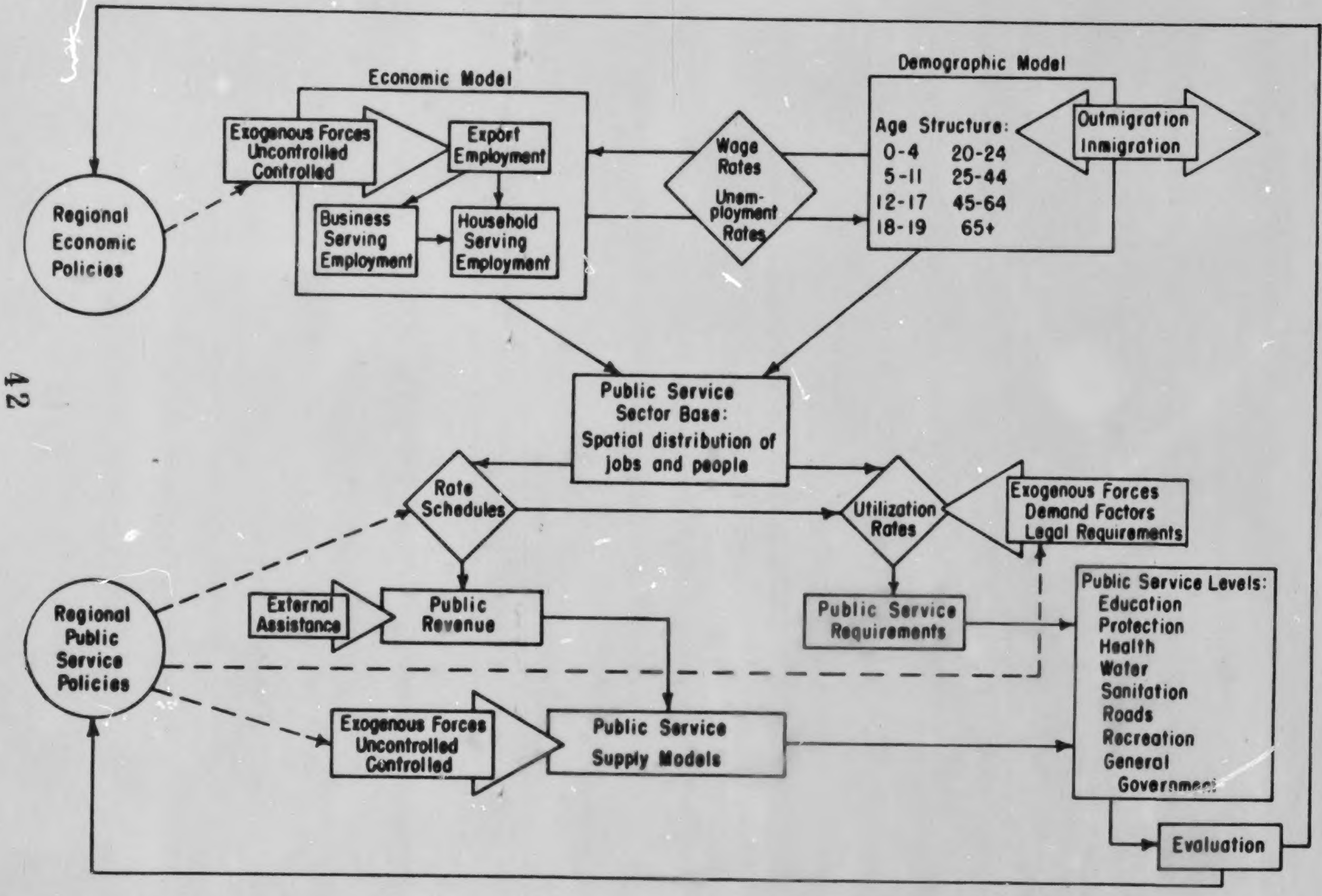
It is the intention of this chapter to focus on public sector analysis for rural regions. Empirical results of most studies for determining service requirements and cost of service delivery are oriented toward urban areas and have limited value in planning for services in rural areas. Much can be gained, however, from the analytical constructs already established for urban area analysis [6]. Furthermore, there is a growing body of empirical results on the effects of density and intra-area location of jobs and people for public sector analysis.

The following section briefly outlines the logic of planning with application to the rural public service sector. Succeeding sections deal with component parts of the planning model. Examples and empirical results are used to lend credence to the operational capability of the planning model.

## THE LOGIC OF PLANNING: APPLICATION TO THE RURAL PUBLIC SERVICE SECTOR

Figure 2.1 schematically presents the framework for regional public service sector planning and analysis briefly described in this section. The logic of planning is simply stated in terms of goals or target variables, means or instrument variables, and the processes and relationships linking the goal variables and instrument variables in such a manner that a change in an instrument variable is associated with a predetermined change in a goal variable. Emphasis in the planning model is placed on differences between two sets of projections that the model generates: the present policy projections and the target projections [15]. Present policy projections assume that the set of policies currently being pursued by the affecting level of government will be continued through the projection period. Target projections result from a change in the set of

Figure 2.1. Schematic framework for regional public service sector planning and analysis.


Regional Economic Policies
Economic Model
Exogenous Forces Uncontrolled Controlled
Export Employment
Business Serving Employment
Household Serving Employment
Wage Rates
Unemployment Rates
Demographic Model
Age Structure:
0-4
5-11
12-17
18-19
20-24
25-44
45-64
65+
Outmigration
Inmigration
Public Service Sector Base: Spatial distribution of jobs and people
Rate Schedules
Utilization Rates
Exogenous Forces Demand Factors Legal Requirements
External Assistance
Public Revenue
Public Service Requirements
Regional Public Service Policies
Public Service Levels:
Education
Protection
Health
Water
Sanitation
Roads
Recreation
General Government
Exogenous Forces Uncontrolled Controlled
Public Service Supply Models
Evaluation

policy assumptions and are measured in terms of changes in the goal variables. Evaluation of the new set of policy assumptions is performed by the affecting government decision makers and in terms of benefits of the changes in goal variables and costs of the new policy assumptions.

The geographic unit of analysis assumed in Figure 2.1 is that of a planning district; a multicounty region; a functional economic area; or an Economic Development District. The appropriateness for such a delineation for rural development planning is fully discussed in Fox and Kumar [2].

### Goals

Goals in the public service sector planning model have been identified in the lower right area of Figure 2.1 as output levels of public services such as education, protection, health, water, sanitation, roads, recreation, and general government. Goals may be interpreted as target levels of a specified quantity and quality of service output. Goals may be specified in terms of alternative futures, perhaps representing different population settlement patterns, with the choice of a specific future selected by the public body [7].

### Policy

In community services planning or economic development planning, there may not be a planning problem if the system is automatically moving towards attaining the specified goals. On the other hand, planning can only be useful if there are certain policy means or instruments available to public decision makers to change the current course of events.

In the process of squeezing down to smaller and smaller geographic divisions, such as identified as the unit of analysis for Figure 2.1, fewer policy instruments are available to public decision makers and the chance of benefits (and costs) spilling out to other areas is greater. Policies have been divided into two major thrusts: regional economic policies and regional public service policies.

Regional economic policies. Since community service levels are so inextricably related to people and jobs, regional economic policies vitally affect the public service goal variables. Economic policies can expand or contract the number of jobs and people and, hence, the public service base (Figure 2.1). They can also discriminate against industries and sectors requiring heavy commitments in terms of community services.

It is important to distinguish between economic policies and public service policies. It may be impossible to change the form of economic development for some regions given the available policy instruments. For such regions it may be much more important to focus only on regional public service policies to increase the quality of living and environment.

Regional public service policies. Regional public service policies can directly influence public service levels through at least three different ways (indicated by dashed arrows in Figure 2.1):

(1) They can influence rate schedules or the direct costs of

services to users. This may be viewed as a means to increase public revenue so the supply of services can be increased. Increased rates may also have the effect of reducing the demand for services and consequently decreasing utilization rates.

(2) Regional public policies can directly affect demand and hence utilization rates by public edict as in the case of health laws requiring sanitary means of solid waste disposal. Frequently, legal requirements are the result of higher authority as in the case of state health laws or federal minimum education laws.

(3) Regional public service policies can affect directly the methods of supply as in the case of permitting only certain types of technology in providing education services (e.g., no programmed instruction) or in providing solid waste collection services (e.g., no permanent collection containers in residential areas). Other forms of policy may allow for joint jurisdictional efforts in supplying area-wide services and hence capture benefits of economies of size if such exist.

Perhaps a fourth arrow should be shown going directly from regional public service policies to controlled exogenous forces influencing the regional economy, since the amount of public infrastructure and the attitude of communities in providing services to private businesses and households is often times of major importance in determining firm location. In fact some would argue that the most significant impact communities can have on firm location is through such incentives rather than through direct economic incentives.

### Evaluation

The process of specifying the operational components of the planning model such as determining the public service sector base, public service requirements, and public service supply are considered in later sections of this chapter. For present discussion let us assume that the transmission process from regional policy through the operational phases occurs and the final outcome is measured in terms of public service level outputs. Here output may be difficult to define since, as an example, police or fire protection is too frequently measured in terms of the size of the police and fire departments rather than the crime level or fire insurance rates. By whatever means possible, public service output will be measured against certain regional goals as to service attainment and a decision made whether additional policies are needed or not.

## ESTABLISHING THE PUBLIC SERVICE SECTOR BASE

Community services in the simplest format are a function of people and jobs. The purpose of this section may be viewed as the formulation of a generalized economic and demographic model of a rural planning region for purposes of projecting number and spatial location of people and jobs. The generalized model is constructed such that a set of economic and demographic conditions can be projected for any rural region. Some may wish to use existing projections of the public service sector base and move directly into problems of supplying public services in rural areas. However, it is of interest to know why rural regions are experiencing changes in the service base.

## Approaches to Regional Economic and Demographic Model Building

Two distinct approaches to regional economic model building are: (1) disaggregation of national or state models, and (2) buildup of local economies to state or national totals. The first approach assures consistency in aggregation totals, whereas the second approach allows more freedom in considering special influences acting upon individual regions. The latter approach is especially interesting since local policy and decisions are more easily incorporated and can give constituents more of a feeling of controlling their own destiny.

### Data and procedures for the disaggregation model

Several sources of state economic projections data are available including the Polenske data [11], the OBERS projections [18], and the National Planning Association data [9]. Using these data sources, rough approximations of substate regional employment projections can be made assuming historical regional shares. Income and population are related to regional employment projections assuming simple and time trend relationships. Results of the disaggregation model are a preliminary set of projections by rural planning region of jobs (by sector) and people.

### A demographic and economic simulation model

Hamilton, et al. [4] give a highly useful framework for constructing a regional demographic and economic simulation model for the Susquehana River basin. Uniqueness of the Hamilton model lies in its inclusion of several economic-behavioral relationships including regional-specific, industry-relative cost formulations based upon labor and transportation costs; regional labor migration rates based upon relative economic opportunities and age groupings; and regional labor-force-participation rates based upon labor supply and demand conditions and age groupings. The model can also allow involvement by local policy makers through policies such as community incentive payments to reduce industry costs; transportation improvement and thus reduced access costs; and increased labor productivity through improved skills derived from vocational technical training programs.

## Results of Economic Projections and Impact Analysis Models

Two analyses have been performed for a substate planning district in south central Oklahoma and are used as examples here to show how relatively simple economic projections models can be used to estimate the public service base. Results of the OBERS projections for the state of Oklahoma are used along with a substate shift-share and economic base analysis to project employment to 1980 for the south central planning district. Brief results of an interindustry model are also presented to show how the impact of an exogenous change in export base employment of a planning district can be translated into a change in the public service base.

## Employment projections

Table 2.1 gives census employment data from 1940 to 1970 by industry category and whether it is household-serving, business-serving, or export employment for the south central Oklahoma planning district. The major part of agriculture, mining, and manufacturing employment is classified as export employment. Employment in transportation, communications, utilities, and wholesale trade is classified as business serving, while employment in retail trade, finance, and services is classified as household serving. Location quotients were used in determining if a planning district was an exporter of business-and household activity. State and federal public administration employment was separated from local administration employment and allocated to the export activity.

Observations of the eleven planning districts of Oklahoma for the four census years were used to estimate a recursive employment model. Export employment determines business-serving employment and in turn, export and business-serving employment determine household-serving employment. Such a system has as its basis the export base theory of employment growth. The regression results for 44 observations are the following (standard errors of the regression coefficients in parentheses):

$$\text{(1)}\quad \log BUS = \underset{(0.29356)}{-1.38513} + \underset{(0.06529)}{1.17663} \log EXP + \underset{(0.00477)}{0.03356t} - \underset{(0.00014)}{0.00057t^2}$$

$$\text{(2)}\quad \log HH = \underset{(0.23218)}{-0.04852} + \underset{(0.05053}{0.94708} \log (EXP + \widehat{BUS}) + \underset{(0.00389)}{0.01195t} - \underset{(0.00012)}{0.00008t^2}$$

Table 2.1. Employment classified by major market functions of exports, business serving, and household serving, planning district nine, south central Oklahoma, 1940-1970.

| Major Industry | 1940 Household Serving | 1940 Business Serving | 1940 Exports | 1950 Household Serving | 1950 Business Serving | 1950 Exports |
|---|---|---|---|---|---|---|
| 1. Agriculture, forestry, and fisheries | | | 26,590 | | | 18,518 |
| 2. Mining | | 1,141 | 389 | | 1,046 | 3,314 |
| 3. Contract construction | | 1,958 | | | 4,911 | 1 |
| 4. Manufacturing | | | | | | |
| 5. Food and kindred products | 765 | | | 805 | | |
| 6. Textiles and fabricated textile prod. mfg. | | | 53 | | | 41 |
| 7. Lumber, wood prod., furniture mfg. | | | 87 | | | 99 |
| 8. Printing, publishing and allied prod. mfg. | | 357 | | | 419 | |
| 9. Chemical and allied prod. mfg. | | | 153 | | | 240 |
| 10. Electrical and other machinery mfg. | | | 96 | | | 209 |
| 11. Motor vehicle and other trans. equip. mfg. | | | 11 | | | 62 |
| 12. Other misc. mfg. | | 498 | | | 940 | |
| 13. Railroads and railway express | | 407 | | | 542 | |
| 14. Trucking and warehousing | | 493 | | | 811 | |
| 15. Other transportation | | 375 | | | 565 | |
| 16. Communications | | 360 | | | 764 | |
| 17. Utilities and sanitary service | | 415 | | | 829 | |
| 18. Wholesale trade | | 1,153 | | | 1,752 | |
| 19. Food and dairy prod. stores | 1,901 | | | 2,100 | | |
| 20. Eating and drinking places | 1,208 | | | 2,239 | | |
| 21. Other retail trade | 4,708 | | | 6,390 | | |
| 22. Finance, insurance, and real estate | 915 | | | 1,326 | | |
| 23. Hotel and other personal services | 1,963 | | | 2,471 | | |
| 24. Private households | 2,035 | | | 1,702 | | |
| 25. Business and repair services | 1,110 | | | 1,651 | | |
| 26. Entertainment, recreation service | 366 | | | 550 | | |
| 27. Medical, other professional service | 4,205 | | | 4,908 | | |
| 28. Public administration | 702 | | 543 | 881 | | 1,914 |
| 29. Industry, not reported | 1,029 | | | 1,341 | | 81 |
| Total | 20,907 | 7,157 | 27,922 | 26,364 | 12,579 | 24,479 |

Table 2.1. (continued)

| Major Industry | 1960 Household Serving | 1960 Business Serving | 1960 Exports | 1970 Household Serving | 1970 Business Serving | 1970 Exports |
|---|---|---|---|---|---|---|
| 1. Agriculture, forestry, and fisheries | | | 9,498 | | | 6,274 |
| 2. Mining | | 660 | 2,578 | | 536 | 2,379 |
| 3. Contract construction | | 4,709 | 407 | | 4,778 | |
| 4. Manufacturing | | | | | | |
| 5. Food and kindred products | 1,356 | | | 993 | | |
| 6. Textiles and fabricated textile prod. mfg. | | | 284 | | | 1,686 |
| 7. lumber, wood prod., furniture mfg. | | | 86 | | | 262 |
| 8. Printing, publishing and allied prod. mfg. | | 565 | | | 452 | |
| 9. Chemical and allied prod. mfg. | | | 30 | | | 49 |
| 10. Electrical and other machinery mfg. | | | 1,928 | | | 2,099 |
| 11. Motor vehicle and other trans. equip. mfg. | | | 368 | | | 1,005 |
| 12. Other misc. mfg. | | 1,456 | | | 1,917 | |
| 13. Railroads and railway express | | 351 | | | 187 | |
| 14. Trucking and warehousing | | 1,028 | 205 | | 1,150 | |
| 15. Other transportation | | 691 | | | 704 | |
| 16. Communications | | 736 | | | 759 | |
| 17. Utilities and sanitary service | | 1,117 | | | 1,325 | 54 |
| 18. Wholesale trade | | 1,509 | | | 1,862 | |
| 19. Food and dairy prod. stores | 1,932 | | | 2,104 | | |
| 20. Eating and drinking places | 2,501 | | 46 | 2,704 | | |
| 21. Other retail trade | 7,807 | | | 9,508 | | |
| 22. Finance, insurance, and real estate | 1,987 | | | 3,022 | | |
| 23. Hotel and other personal services | 2,774 | | | 3,115 | | |
| 24. Private households | 2,170 | | 24 | 1,256 | | |
| 25. Business and repair services | 1,514 | | | 2,059 | | |
| 26. Entertainment, recreation service | 401 | | | 561 | | |
| 27. Medical, other professional service | 7,287 | | | 11,999 | | |
| 28. Public administration | 1,113 | | 3,646 | 1,369 | | 4,921 |
| 29. Industry, not reported | 2,512 | | | | | |
| Total | 33,354 | 12,822 | 19,100 | 38,690 | 13,720 | 18,729 |

where:

BUS = business-serving employment

EXP = export-serving employment

HH = household-serving employment

t = time (1940=1, 1950=11, 1960=21, 1970=31)

A trend term was included in both equations to account for the systematic increase in the nonbasic-to-basic employment ratios over the observed time period. The economic explanations of this increase over time can be attributed to (1) changes in technology and relative factor prices that encourages specialization and a substitution of activities provided by the business-serving sectors for those previously done within the export sectors;[2] and (2) increased incomes and a high income elasticity of demand for household-serving activities. In both equations the linear time trend coefficient is significant, whereas the nonlinear time trend coefficient is significant only in the business-serving employment equation. In both cases the trend of an increasing nonbasic-to-basic employment ratio is slowing with a maximum ratio in the business-serving-to-export employment ratio occurring towards the end of the observed period.

Export base employment is projected to increase as a baseline projection to 19,971 by 1980 for the south central Oklahoma planning district. Business-serving employment is estimated at 14,922 and household-serving employment at 44,695 for a total 1980 expected employment of 79,588 for the south central Oklahoma planning district.

## Impact analysis

The previous section presented baseline projections under the assumptions of no policy or program changes other than those incorporated in a time trend fashion and that regional changes in comparative advantage relative to location of export-base employment are slow to materialize and are also subject to time trend projections. A different frame of reference is needed to project changes in the public service base due to sudden uncontrolled exogenous forces operating on the regional economy, such as the closing of a military base or other federal establishment, or to a controlled exogenous force, such as a change in regional economic policy. The latter may be in the form of a tax incentive which alters the comparative advantage of this region relative to others for industry location.

The interindustry model is a useful tool to trace the direct and indirect effects of a controlled or uncontrolled exogenous change on the regional economy. Table 2.2 shows the employment effect on all other sectors of the south central Oklahoma planning district from a change in the export base employment of some 35 sectors. An important export sector for this particular planning district is that of metal manufacturing (sector 15). The total employment multiplier for the sector is 1.97, with the distribution of employment effects among sectors as recorded in column 15. The results of this impact analysis are directly related to the change in the public service base as represented by jobs or employment.

Table 2.2. Direct, indirect, and induced employment changes from a change in export-base employment, planning district nine, south central Oklahoma, 1970.

| Sector | | Farms Ranches (1) | Ag. Services (2) | Mining (3) | Const. (4) | Transport. (5) | Finance R.E. (6) | Utilities (7) | Food Mfg. (8) | Apparel Mfg. (9) |
|---|---|---|---|---|---|---|---|---|---|---|
| Farms-Ranches | (1) | 1.351521 | 0.092074 | 0.082573 | 0.081028 | 0.058157 | 0.107423 | 0.059259 | 1.671660 | 0.061938 |
| Agricultural Services | (2) | 0.060011 | 1.060740 | 0.014722 | 0.012040 | 0.010442 | 0.011797 | 0.009957 | 0.082487 | 0.048516 |
| Mining | (3) | 0.014852 | 0.086778 | 1.383175 | 0.010855 | 0.015143 | 0.007392 | 0.008803 | 0.028836 | 0.009037 |
| Construction | (4) | 0.031544 | 0.037772 | 0.037426 | 1.088453 | 0.022149 | 0.025592 | 0.037143 | 0.072560 | 0.022225 |
| Transportation | (5) | 0.038039 | 0.390342 | 0.104604 | 0.021214 | 1.017416 | 0.015729 | 0.016727 | 0.077120 | 0.028966 |
| Finance-Real Estate | (6) | 0.122845 | 0.136207 | 0.102375 | 0.080742 | 0.064458 | 1.074883 | 0.089351 | 0.227959 | 0.059762 |
| Utilities | (7) | 0.042373 | 0.058603 | 0.098360 | 0.035542 | 0.030232 | 0.050473 | 1.037137 | 0.093970 | 0.036133 |
| Food Manufacturing | (8) | 0.020737 | 0.024594 | 0.024067 | 0.018527 | 0.015700 | 0.016294 | 0.016613 | 1.053569 | 0.014980 |
| Apparel Manufacturing | (9) | 0.007164 | 0.008308 | 0.009187 | 0.006658 | 0.005302 | 0.005703 | 0.005521 | 0.014765 | 1.005282 |
| Wood-Paper | (10) | 0.000823 | 0.000965 | 0.000985 | 0.013472 | 0.000589 | 0.000723 | 0.000788 | 0.002190 | 0.000595 |
| Printing-Publishing | (11) | 0.013461 | 0.022312 | 0.017147 | 0.013967 | 0.009597 | 0.015667 | 0.020849 | 0.028458 | 0.011140 |
| Petroleum Refining | (12) | 0.007037 | 0.009278 | 0.008265 | 0.007049 | 0.010613 | 0.004430 | 0.005671 | 0.015736 | 0.003787 |
| Leather-Plastic-Rubber | (13) | 0.000051 | 0.000081 | 0.000355 | 0.000044 | 0.000036 | 0.000036 | 0.000039 | 0.000108 | 0.000035 |
| Concrete Products | (14) | 0.009256 | 0.010946 | 0.010277 | 0.094064 | 0.006430 | 0.006762 | 0.008108 | 0.019112 | 0.006135 |
| Metal Manufacturing | (15) | 0.004901 | 0.015514 | 0.130750 | 0.004305 | 0.003433 | 0.002830 | 0.003919 | 0.011845 | 0.002880 |
| Construction Materials | (16) | 0.018940 | 0.021109 | 0.020291 | 0.044003 | 0.012386 | 0.016202 | 0.014774 | 0.037746 | 0.014180 |
| General Sales | (17) | 0.054750 | 0.061778 | 0.063219 | 0.048621 | 0.039862 | 0.042711 | 0.041157 | 0.112448 | 0.043288 |
| Food Sales | (18) | 0.059239 | 0.067900 | 0.069085 | 0.052466 | 0.043769 | 0.046896 | 0.045737 | 0.121943 | 0.043631 |
| Gasoline Service | (19) | 0.033279 | 0.037021 | 0.028708 | 0.026065 | 0.033147 | 0.019108 | 0.023242 | 0.075966 | 0.017070 |
| Auto Sales | (20) | 0.041232 | 0.047126 | 0.042928 | 0.034976 | 0.029703 | 0.030040 | 0.030952 | 0.083417 | 0.027030 |
| Clothing | (21) | 0.028505 | 0.032783 | 0.033331 | 0.025423 | 0.021148 | 0.022703 | 0.021856 | 0.058777 | 0.021072 |
| Furniture | (22) | 0.015544 | 0.017981 | 0.019992 | 0.014467 | 0.011505 | 0.012375 | 0.011982 | 0.032037 | 0.011458 |
| Eating | (23) | 0.066283 | 0.077975 | 0.077914 | 0.059071 | 0.049305 | 0.053164 | 0.055323 | 0.136840 | 0.051969 |
| Miscellaneous Retail | (24) | 0.043500 | 0.048889 | 0.047084 | 0.038164 | 0.029297 | 0.033007 | 0.032207 | 0.088112 | 0.028998 |
| Lodging | (25) | 0.004480 | 0.011235 | 0.005466 | 0.004646 | 0.008415 | 0.003339 | 0.003842 | 0.013229 | 0.005427 |
| Personal Services | (26) | 0.037504 | 0.044855 | 0.044046 | 0.033693 | 0.028850 | 0.029912 | 0.029122 | 0.078048 | 0.028166 |
| Business Services | (27) | 0.035658 | 0.048794 | 0.040760 | 0.034215 | 0.024878 | 0.080862 | 0.053744 | 0.073126 | 0.024493 |
| Professional Services | (28) | 0.073504 | 0.084298 | 0.095392 | 0.068518 | 0.051505 | 0.063374 | 0.051039 | 0.156145 | 0.048928 |
| Automobile Repair | (29) | 0.016021 | 0.037836 | 0.012438 | 0.011709 | 0.010237 | 0.010624 | 0.009567 | 0.028399 | 0.008436 |
| Recreation | (30) | 0.009320 | 0.010919 | 0.010951 | 0.008409 | 0.007020 | 0.007732 | 0.007489 | 0.019396 | 0.007031 |
| Miscellaneous Repair | (31) | 0.009331 | 0.010990 | 0.010936 | 0.008555 | 0.007276 | 0.008032 | 0.007500 | 0.019262 | 0.006847 |
| Medical | (32) | 0.085248 | 0.099847 | 0.100465 | 0.076778 | 0.063568 | 0.068145 | 0.065948 | 0.176750 | 0.063380 |
| Wholesale | (33) | 0.049856 | 0.071840 | 0.086837 | 0.077898 | 0.057108 | 0.031563 | 0.033030 | 0.266048 | 0.029495 |
| Households | (34) | 2.725809 | 3.157168 | 3.209746 | 2.441344 | 2.037071 | 2.180735 | 2.105013 | 5.637855 | 2.029862 |
| State-Local Government | (35) | 0.318999 | 0.369480 | 0.375633 | 0.285708 | 0.238396 | 0.255209 | 0.246347 | 0.659792 | 0.237553 |

SOURCE: George E. Muncrief. Development of Interindustry Analysis for Use Within a Public Service Planning Framework to Estimate Generation of Solid Wastes in South Central Oklahoma. Unpublished M.S. dissertation, Oklahoma State University, Stillwater, May, 1972, p. 48-49.

Note: Direct, indirect, and induced multipliers are read from row 34.

Table 2.2. (continued)

| Sector | | Wood Paper (10) | Printing Publish. (11) | Petro. Refining (12) | Leather Plastic Rubber (13) | Concrete (14) | Metal Mfg. (15) | Const. Materials (16) | General Sales (17) | Food Sales (18) |
|---|---|---|---|---|---|---|---|---|---|---|
| Farms-Ranches | (1) | 0.055022 | 0.059974 | 0.152774 | 0.087219 | 0.060844 | 0.049753 | 0.071251 | 0.058624 | 0.449797 |
| Agricultural Services | (2) | 0.008994 | 0.009322 | 0.026965 | 0.011374 | 0.009296 | 0.008959 | 0.013013 | 0.009893 | 0.029707 |
| Mining | (3) | 0.007479 | 0.006606 | 1.308358 | 0.023185 | 0.006240 | 0.006552 | 0.026546 | 0.006930 | 0.013899 |
| Construction | (4) | 0.020693 | 0.021680 | 0.066645 | 0.025042 | 0.021845 | 0.022074 | 0.043050 | 0.026219 | 0.050154 |
| Transportation | (5) | 0.013613 | 0.015866 | 0.469462 | 0.020486 | 0.012795 | 0.019625 | 0.126984 | 0.015067 | 0.032858 |
| Finance-Real Estate | (6) | 0.061179 | 0.079961 | 0.180715 | 0.074386 | 0.072303 | 0.058356 | 0.100973 | 0.082248 | 0.131456 |
| Utilities | (7) | 0.027604 | 0.031691 | 0.186334 | 0.084432 | 0.031814 | 0.027701 | 0.047002 | 0.037709 | 0.064871 |
| Food Manufacturing | (8) | 0.014710 | 0.015902 | 0.044836 | 0.019075 | 0.014928 | 0.014471 | 0.020544 | 0.016324 | 0.261571 |
| Apparel Manufacturing | (9) | 0.005059 | 0.005163 | 0.015897 | 0.006939 | 0.005374 | 0.005391 | 0.006665 | 0.005624 | 0.009351 |
| Wood-Paper | (10) | 1.000561 | 0.000577 | 0.001750 | 0.000691 | 0.000583 | 0.000585 | 0.004525 | 0.000656 | 0.001273 |
| Printing-Publishing | (11) | 0.008739 | 1.011818 | 0.040509 | 0.028173 | 0.011928 | 0.011913 | 0.025277 | 0.042203 | 0.058894 |
| Petroleum Refining | (12) | 0.004739 | 0.004027 | 1.017683 | 0.016760 | 0.003748 | 0.004012 | 0.019219 | 0.004208 | 0.007992 |
| Leather-Plastic-Rubber | (13) | 0.000032 | 0.000033 | 0.000389 | 1.000069 | 0.000034 | 0.002436 | 0.000051 | 0.000360 | 0.000075 |
| Concrete Products | (14) | 0.005860 | 0.005957 | 0.019395 | 0.007245 | 1.006714 | 0.008445 | 0.030880 | 0.007090 | 0.013168 |
| Metal Manufacturing | (15) | 0.002477 | 0.002538 | 0.130025 | 0.016198 | 0.002643 | 1.010464 | 0.006454 | 0.002635 | 0.005600 |
| Construction Materials | (16) | 0.013096 | 0.012145 | 0.036915 | 0.013867 | 0.012147 | 0.012152 | 1.036794 | 0.013193 | 0.023753 |
| General Sales | (17) | 0.039862 | 0.038900 | 0.115221 | 0.044261 | 0.038372 | 0.043507 | 0.050677 | 1.042709 | 0.070854 |
| Food Sales | (18) | 0.041794 | 0.042666 | 0.124948 | 0.048617 | 0.042264 | 0.042613 | 0.054284 | 0.045613 | 1.083865 |
| Gasoline Service | (19) | 0.023016 | 0.018888 | 0.058848 | 0.019325 | 0.017433 | 0.017133 | 0.037322 | 0.018210 | 0.037067 |
| Auto Sales | (20) | 0.025501 | 0.028355 | 0.080974 | 0.029924 | 0.030448 | 0.027525 | 0.036918 | 0.028410 | 0.049875 |
| Clothing | (21) | 0.020193 | 0.020613 | 0.060305 | 0.023475 | 0.020422 | 0.020563 | 0.026226 | 0.022037 | 0.037252 |
| Furniture | (22) | 0.010977 | 0.011203 | 0.034549 | 0.015129 | 0.011678 | 0.011715 | 0.014468 | 0.012211 | 0.020290 |
| Eating | (23) | 0.047049 | 0.049758 | 0.145020 | 0.055000 | 0.047600 | 0.048040 | 0.061232 | 0.051433 | 0.086883 |
| Miscellaneous Retail | (24) | 0.027974 | 0.029824 | 0.084870 | 0.033034 | 0.031084 | 0.028261 | 0.037767 | 0.031285 | 0.053525 |
| Lodging | (25) | 0.016369 | 0.008904 | 0.015912 | 0.040881 | 0.009467 | 0.003976 | 0.010695 | 0.005222 | 0.008231 |
| Personal Services | (26) | 0.028641 | 0.028113 | 0.080742 | 0.036595 | 0.027950 | 0.027184 | 0.035683 | 0.029353 | 0.056555 |
| Business Services | (27) | 0.023981 | 0.025961 | 0.080686 | 0.030980 | 0.024613 | 0.023698 | 0.040847 | 0.078598 | 0.065537 |
| Professional Services | (28) | 0.048439 | 0.048328 | 0.159376 | 0.055749 | 0.048686 | 0.047401 | 0.071060 | 0.054812 | 0.093554 |
| Automobile Repair | (29) | 0.007313 | 0.009464 | 0.026160 | 0.008621 | 0.009724 | 0.009230 | 0.012235 | 0.007995 | 0.015201 |
| Recreation | (30) | 0.006638 | 0.006771 | 0.019889 | 0.007757 | 0.006707 | 0.006714 | 0.009951 | 0.007605 | 0.012290 |
| Miscellaneous Repair | (31) | 0.006821 | 0.007706 | 0.027539 | 0.007721 | 0.006889 | 0.006741 | 0.009768 | 0.012304 | 0.012681 |
| Medical | (32) | 0.060783 | 0.062286 | 0.181772 | 0.070566 | 0.061826 | 0.061673 | 0.079249 | 0.066311 | 0.112178 |
| Wholesale | (33) | 0.032363 | 0.031992 | 0.132881 | 0.033470 | 0.028267 | 0.052440 | 0.062699 | 0.031234 | 0.193192 |
| Households | (34) | 1.945221 | 1.985333 | 5.808054 | 2.260829 | 1.966847 | 1.972098 | 2.525915 | 2.122749 | 3.582731 |
| State-Local Government | (35) | 0.227647 | 0.232341 | 0.679710 | 0.264582 | 0.230178 | 0.230793 | 0.295605 | 0.248423 | 0.419283 |

Table 2.2. (continued)

| Sector | | Gasoline Services (19) | Auto Sales (20) | Clothing (21) | Furniture (22) | Eating (23) | Misc. Retail (24) | Lodging (25) | Personal Services (26) | Business Services (27) |
|---|---|---|---|---|---|---|---|---|---|---|
| Farms-Ranches | (1) | 0.127773 | 0.066897 | 0.057245 | 0.094478 | 0.075732 | 0.063362 | 0.091254 | 0.050908 | 0.052787 |
| Agricultural Services | (2) | 0.018128 | 0.011544 | 0.010060 | 0.032947 | 0.010724 | 0.010090 | 0.012663 | 0.008871 | 0.009162 |
| Mining | (3) | 0.241009 | 0.009652 | 0.006406 | 0.014788 | 0.006797 | 0.006997 | 0.009778 | 0.008213 | 0.012993 |
| Construction | (4) | 0.045956 | 0.028210 | 0.024988 | 0.038168 | 0.024898 | 0.026306 | 0.035137 | 0.022539 | 0.022355 |
| Transportation | (5) | 0.101730 | 0.033658 | 0.015765 | 0.031861 | 0.014403 | 0.014096 | 0.018205 | 0.013236 | 0.015225 |
| Finance-Real Estate | (6) | 0.131150 | 0.086394 | 0.072601 | 0.128280 | 0.066084 | 0.074680 | 0.096806 | 0.061931 | 0.057052 |
| Utilities | (7) | 0.081535 | 0.038491 | 0.037716 | 0.061930 | 0.033683 | 0.035845 | 0.069012 | 0.035765 | 0.028665 |
| Food Manufacturing | (8) | 0.047682 | 0.019020 | 0.016176 | 0.026297 | 0.027246 | 0.019875 | 0.035295 | 0.014915 | 0.015632 |
| Apparel Manufacturing | (9) | 0.009583 | 0.006382 | 0.013043 | 0.455530 | 0.005698 | 0.005520 | 0.006823 | 0.005083 | 0.005256 |
| Wood-Paper | (10) | 0.001146 | 0.000729 | 0.000630 | 0.014067 | 0.000651 | 0.000655 | 0.000846 | 0.000581 | 0.000589 |
| Printing-Publishing | (11) | 0.020494 | 0.030264 | 0.034737 | 0.059896 | 0.011118 | 0.017527 | 0.017765 | 0.010416 | 0.009030 |
| Petroleum Refining | (12) | 0.185942 | 0.006142 | 0.003810 | 0.008737 | 0.004032 | 0.004250 | 0.006126 | 0.005318 | 0.009012 |
| Leather-Plastic-Rubber | (13) | 0.000124 | 0.000533 | 0.000128 | 0.000058 | 0.000036 | 0.000074 | 0.000045 | 0.000037 | 0.000035 |
| Concrete Products | (14) | 0.013749 | 0.009241 | 0.007764 | 0.010124 | 0.007026 | 0.006793 | 0.015190 | 0.007134 | 0.006469 |
| Metal Manufacturing | (15) | 0.027263 | 0.043703 | 0.002565 | 0.004821 | 0.002710 | 0.006799 | 0.003561 | 0.002793 | 0.003205 |
| Construction Materials | (16) | 0.023896 | 0.015259 | 0.013550 | 0.023464 | 0.013666 | 0.013410 | 0.017066 | 0.012088 | 0.012384 |
| General Sales | (17) | 0.080167 | 0.053498 | 0.041727 | 0.066639 | 0.044382 | 0.042738 | 0.053204 | 0.038430 | 0.039849 |
| Food Sales | (18) | 0.077900 | 0.052496 | 0.044159 | 0.069859 | 0.051512 | 0.045609 | 0.055730 | 0.041989 | 0.043313 |
| Gasoline Service | (19) | 1.042107 | 0.027572 | 0.017138 | 0.041425 | 0.018435 | 0.019702 | 0.026182 | 0.016488 | 0.017575 |
| Auto Sales | (20) | 0.066889 | 1.043846 | 0.028730 | 0.049270 | 0.029160 | 0.028933 | 0.035190 | 0.026134 | 0.026798 |
| Clothing | (21) | 0.037635 | 0.026046 | 1.021332 | 0.033742 | 0.022746 | 0.021946 | 0.026924 | 0.020387 | 0.020925 |
| Furniture | (22) | 0.020805 | 0.013838 | 0.011627 | 1.019165 | 0.012363 | 0.011980 | 0.014811 | 0.011028 | 0.011405 |
| Eating | (23) | 0.088527 | 0.060154 | 0.049802 | 0.080040 | 1.053003 | 0.051170 | 0.062846 | 0.047304 | 0.048772 |
| Miscellaneous Retail | (24) | 0.052475 | 0.035530 | 0.030189 | 0.056008 | 0.031290 | 1.034702 | 0.038204 | 0.028037 | 0.028520 |
| Lodging | (25) | 0.009897 | 0.006390 | 0.007485 | 0.012329 | 0.004527 | 0.016596 | 1.004100 | 0.002918 | 0.003012 |
| Personal Services | (26) | 0.050927 | 0.034178 | 0.032182 | 0.046883 | 0.034453 | 0.031003 | 0.186129 | 1.026733 | 0.027576 |
| Business Services | (27) | 0.070231 | 0.100168 | 0.036743 | 0.085455 | 0.031144 | 0.034213 | 0.092791 | 0.027945 | 1.084994 |
| Professional Services | (28) | 0.092969 | 0.064581 | 0.059806 | 0.105754 | 0.054379 | 0.065127 | 0.093011 | 0.051460 | 0.053822 |
| Automobile Repair | (29) | 0.040905 | 0.023183 | 0.007706 | 0.019690 | 0.008170 | 0.010231 | 0.009924 | 0.007192 | 0.007399 |
| Recreation | (30) | 0.012747 | 0.008825 | 0.007388 | 0.012473 | 0.007569 | 0.007241 | 0.009975 | 0.006683 | 0.007212 |
| Miscellaneous Repair | (31) | 0.015404 | 0.016054 | 0.007144 | 0.012354 | 0.007404 | 0.007265 | 0.009662 | 0.006649 | 0.006777 |
| Medical | (32) | 0.113639 | 0.076407 | 0.064268 | 0.101462 | 0.068471 | 0.066202 | 0.080899 | 0.060970 | 0.062895 |
| Wholesale | (33) | 0.248999 | 0.107776 | 0.029732 | 0.051521 | 0.150998 | 0.065558 | 0.053264 | 0.045284 | 0.062895 |
| Households | (34) | 3.623427 | 2.442505 | 2.054813 | 3.249842 | 2.190910 | 2.113880 | 2.591726 | 1.954152 | 2.015895 |
| State-Local Government | (35) | 0.424046 | 0.285844 | 0.240473 | 0.380326 | 0.256400 | 0.247385 | 0.303307 | 0.228692 | 0.235918 |

Table 2.2. (continued)

| Sector | | Professional Services (28) | Automobile Repair (29) | Recreation (30) | Misc. Repair (31) | Medical (32) | Wholesale (33) | Households (34) | State Local Gov't. (35) |
|---|---|---|---|---|---|---|---|---|---|
| Farms-Ranches | (1) | 0.049821 | 0.064234 | 0.080720 | 0.062720 | 0.056648 | 0.045462 | 0.045462 | 0.061253 |
| Agricultural Services | (2) | 0.008697 | 0.010937 | 0.010901 | 0.010862 | 0.009724 | 0.008228 | 0.008228 | 0.009974 |
| Mining | (3) | 0.005906 | 0.009234 | 0.007619 | 0.009532 | 0.007147 | 0.005420 | 0.005420 | 0.009127 |
| Construction | (4) | 0.021857 | 0.028450 | 0.027685 | 0.028281 | 0.029121 | 0.019248 | 0.019248 | 0.027739 |
| Transportation | (5) | 0.012609 | 0.019115 | 0.014987 | 0.020307 | 0.014331 | 0.011456 | 0.011456 | 0.016440 |
| Finance-Real Estate | (6) | 0.059760 | 0.094640 | 0.068753 | 0.090198 | 0.068109 | 0.049878 | 0.049878 | 0.073062 |
| Utilities | (7) | 0.029452 | 0.042784 | 0.036247 | 0.048294 | 0.030837 | 0.023568 | 0.023568 | 0.033890 |
| Food Manufacturing | (8) | 0.014641 | 0.019287 | 0.032578 | 0.018455 | 0.016645 | 0.013220 | 0.013220 | 0.020377 |
| Apparel Manufacturing | (9) | 0.005002 | 0.006221 | 0.005754 | 0.006431 | 0.005591 | 0.004762 | 0.004762 | 0.005609 |
| Wood-Paper | (10) | 0.000571 | 0.000723 | 0.000691 | 0.000728 | 0.000690 | 0.000520 | 0.000520 | 0.000736 |
| Printing-Publishing | (11) | 0.010993 | 0.016487 | 0.023832 | 0.014568 | 0.010368 | 0.007965 | 0.007965 | 0.012520 |
| Petroleum Refining | (12) | 0.003539 | 0.005865 | 0.004656 | 0.006105 | 0.004384 | 0.003212 | 0.003212 | 0.005088 |
| Leather-Plastic-Rubber | (13) | 0.000033 | 0.000054 | 0.000057 | 0.000047 | 0.000036 | 0.000029 | 0.000029 | 0.000041 |
| Concrete Products | (14) | 0.006066 | 0.010548 | 0.009680 | 0.012155 | 0.007725 | 0.005357 | 0.005357 | 0.009634 |
| Metal Manufacturing | (15) | 0.002465 | 0.004972 | 0.002828 | 0.004534 | 0.003209 | 0.002154 | 0.002154 | 0.003671 |
| Construction Materials | (16) | 0.012776 | 0.014771 | 0.014016 | 0.015375 | 0.013293 | 0.010999 | 0.010999 | 0.018486 |
| General Sales | (17) | 0.037675 | 0.046919 | 0.043175 | 0.046804 | 0.042173 | 0.035661 | 0.035661 | 0.048373 |
| Food Sales | (18) | 0.041875 | 0.051359 | 0.047529 | 0.051206 | 0.046344 | 0.039357 | 0.039357 | 0.046358 |
| Gasoline Service | (19) | 0.016306 | 0.027737 | 0.019053 | 0.026840 | 0.017654 | 0.014796 | 0.014796 | 0.021846 |
| Auto Sales | (20) | 0.028974 | 0.057537 | 0.029596 | 0.042708 | 0.028099 | 0.023807 | 0.023807 | 0.031658 |
| Clothing | (21) | 0.019895 | 0.024832 | 0.022961 | 0.024744 | 0.023804 | 0.019017 | 0.019017 | 0.021549 |
| Furniture | (22) | 0.010854 | 0.013498 | 0.012486 | 0.013970 | 0.012106 | 0.010332 | 0.010332 | 0.012185 |
| Eating | (23) | 0.046361 | 0.057886 | 0.053539 | 0.057718 | 0.051586 | 0.044293 | 0.044293 | 0.049984 |
| Miscellaneous Retail | (24) | 0.029833 | 0.034864 | 0.032059 | 0.036223 | 0.031935 | 0.025652 | 0.025652 | 0.034417 |
| Lodging | (25) | 0.005000 | 0.003723 | 0.003441 | 0.003707 | 0.003202 | 0.002668 | 0.002668 | 0.004099 |
| Personal Services | (26) | 0.026621 | 0.057522 | 0.030278 | 0.032978 | 0.029697 | 0.025048 | 0.025048 | 0.029384 |
| Business Services | (27) | 0.023715 | 0.043735 | 0.134977 | 0.135330 | 0.134383 | 0.020846 | 0.020846 | 0.027605 |
| Professional Services | (28) | 1.052078 | 0.067891 | 0.053806 | 0.067760 | 0.060611 | 0.043650 | 0.043650 | 0.051769 |
| Automobile Repair | (29) | 0.007198 | 1.033282 | 0.008263 | 0.023493 | 0.008084 | 0.006638 | 0.006638 | 0.009779 |
| Recreation | (30) | 0.006621 | 0.008221 | 1.008638 | 0.008163 | 0.007526 | 0.006229 | 0.006229 | 0.007200 |
| Miscellaneous Repair | (31) | 0.007287 | 0.009008 | 0.007954 | 1.008190 | 0.007142 | 0.006090 | 0.006090 | 0.007244 |
| Medical | (32) | 0.060084 | 0.075316 | 0.069020 | 0.075365 | 1.066710 | 0.057153 | 0.057153 | 0.070606 |
| Wholesale | (33) | 0.027461 | 0.148616 | 0.035024 | 0.100108 | 0.034287 | 1.024990 | 0.024990 | 0.041116 |
| Households | (34) | 1.916285 | 2.389964 | 2.211627 | 2.382751 | 2.132801 | 1.832118 | 1.832118 | 2.064410 |
| State-Local Government | (35) | 0.224261 | 0.279695 | 0.258824 | 0.278851 | 0.249599 | 0.214411 | 0.214411 | 1.241596 |

A further impact analysis is used to show the intraregional (or planning district) spatial effects of an exogenous change in export base employment. Table 2.3 contains multipliers for additions in employment to the final markets of regional exports, federal government, and capital formation. Viewing the column coefficients for Caddo County, if employment serving the export base for that county increases by 100 jobs, total employment in Caddo County is expected to increase by 198 jobs. In addition, employment in Grady County is expected to increase by 14 jobs due to trading relationships directly and indirectly with Caddo County. Similarly, employment in Comanche County will increase directly and indirectly by 9 jobs and in Stephens County by 3 jobs. The employment multiplier for the total planning region equals 2.25, of which 88 percent of the employment benefits accrue within the county where the increase in export activity employment occurred and 12 percent accrues in other counties of the region.

By looking at each row of coefficients, it is possible to identify the importance of certain trade centers and to measure the impact a change in the export activity within the trading region has on the center. Figure 2.2 identifies the two subregional trade centers of Chickasha in Grady County and Duncan in Stephens County. It also identifies the larger regional trade center of Lawton in Comanche County. As an example employment in Duncan is expected to increase (decrease) by 55 for an increase

Table 2.3. Employment multipliers by county for changes in the export base, planning district nine, south central Oklahoma, 1970.

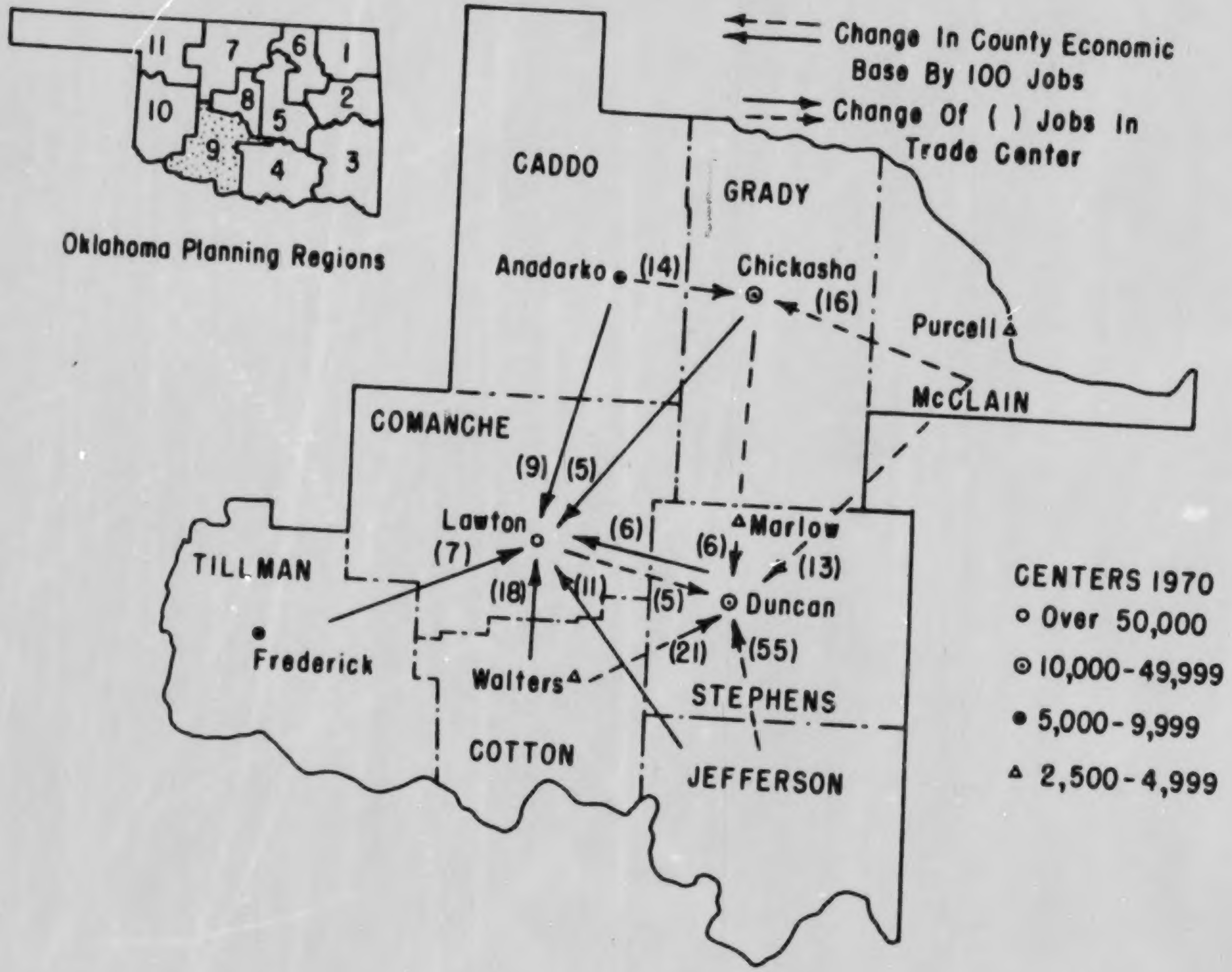
| County | Caddo | Grady | McClain | Comanche | Stephens | Tillman | Cotton | Jefferson |
|---|---|---|---|---|---|---|---|---|
| Caddo | 1.98[a] | 0.12 | 0.11 | 0.03 | 0.02 | 0.04 | 0.10 | 0.13 |
| Grady | 0.14 | 2.49 | 0.16 | 0.02 | 0.03 | --- | 0.04 | 0.03 |
| McClain | 0.02 | 0.02 | 2.82 | --- | --- | --- | --- | --- |
| Comanche | 0.09 | 0.05 | 0.01 | 1.95 | 0.06 | 0.07 | 0.18 | 0.11 |
| Stephens | 0.03 | 0.06 | 0.13 | 0.05 | 2.13 | 0.02 | 0.21 | 0.55 |
| Tillman | --- | --- | --- | 0.01 | --- | 2.49 | 0.22 | 0.08 |
| Cotton | --- | --- | --- | 0.01 | 0.02 | 0.02 | 2.01 | 0.06 |
| Jefferson | --- | --- | --- | --- | 0.02 | --- | 0.04 | 2.64 |
| Total[b] | 2.25 | 2.75 | 3.24 | 2.07 | 2.29 | 2.65 | 2.81 | 3.61 |

Source: Dean Schreiner, George Muncrief, and Bob Davis. "Estimating Intercounty Employment Linkages in a Multi-County Development District." Southern Journal of Agricultural Economics, July, 1972, p. 56.

[a] Each coefficient represents the change in total number of persons employed in the county to the left for each additional person employed in the producing export sectors of industries located in the county at the top.

[b] Total direct, indirect, and induced employment multiplier for Planning District Nine.

Figure 2.2. Intercounty employment dependence from a change in export base employment.


Oklahoma Planning Regions
1
2
3
4
5
6
7
8
9
10
11
Change In County Economic Base By 100 Jobs
Change Of ( ) Jobs In Trade Center
CADDO
GRADY
McCLAIN
COMANCHE
TILLMAN
COTTON
STEPHENS
JEFFERSON
Anadarko
Chickasha
Purcell
Lawton
Marlow
Duncan
Frederick
Walters
(14)
(16)
(9)
(5)
(7)
(6)
(6)
(13)
(18)
(11)
(5)
(21)
(55)
CENTERS 1970
○ Over 50,000
⊙ 10,000-49,999
● 5,000-9,999
△ 2,500-4,999

Source: Dean Schreiner, George Muncrief, and Bob Davis. "Estimating Intercounty Employment Linkages in a Multi-County Development District." Southern Journal of Agricultural Economics, July, 1972, p. 57.

(decrease) of 100 in the export base of Jefferson County, by 5 for Comanche County, by 6 for Grady County, and by 13 for McClain County.

A tendency exists for communities to feel that unless new firms locate in their community rather than a neighboring town, no benefits will accrue to them. This may be true if the community is not a higher order trade center or if the firm does not provide jobs to their labor force. It may also be true if more of the costs of community services are passed on to them due to the plant location than they receive in public revenue.

## PUBLIC SERVICE SECTOR REQUIREMENTS

The purpose of establishing the public service sector base for future time periods or as a result of a sudden exogenous impact on the regional economy was to provide a basis for determining public service requirements. But the problem of determining public service requirements is not over yet. The amount of some public services desired in a planning region is a function of their price. Cheap city water may be an incentive for some firms to utilize water-intensive production processes and for others to utilize water to dilute industry pollutants to meet certain environmental standards. Amounts of other public services required may be described by law or may be so tied to the public service base that for all practical purposes service requirements are an invariant ratio of the service base. For example, all six-year-olds are part of the educational service requirement. This does not mean that the quality of the educational service is invariant to the amount of funding made available to the education system, but it does mean that the public service base, as represented by all six-year-olds, is an important factor in determining total service requirements.

In essence what we have identified in Figure 2.1 as utilization rates represents an estimation of the demand for a particular public service in a rural region. Factors that affect utilization rates will vary by public service and some may include the traditional demand factors such as price, income, and wealth. The whole problem of estimating the demand for a public service is not yet definitive for many reasons which have been adequately described in the literature, e.g., Margolis [8].

### Approach to the Demand for Community Public Services

One approach to the estimation of public service requirements is to assume a utilization rate for a specific quality of service that is consistent with expected demand conditions within the region. The utilization rate may be defined in terms of so many units of the service per unit of specific industry sector output or in terms of age specific population.

Defined in this manner, public service utilization rates may be used in an interindustry model much the same way as we use primary resource requirement coefffcients. If the utilization rate describes the use of a public service relative to regional sector output, total public service requirement of type s, $U_s$, is a function of output of all regional sectors. The utilization rate, as in equation (3), for service s in sector j is the ratio of total service requirements to the output of sector j:

$$(3) \quad \mu_{sj} = \frac{U_{sj}}{X_j} \; ; \; j = 1, \ldots n; \; s = 1, \ldots m$$

where

$s$ = community service of type s
$j$ = sector in an interindustry model
$U_{sj}$ = total community service requirement of type s associated with output of sector j
$X_j$ = output of sector j in an interindustry model
$\mu_{sj}$ = utilization rate of community service of type s per unit of output in sector j.

All service requirements of type s for n sectors can be expressed algebraically as:

$$(4) \quad U_s = \sum_{j=1}^{n} U_{sj} = \sum_{j=1}^{n} \mu_{sj} X_j$$

and in matrix form:

$$(5) \quad U_s = \mu_s X$$

where $\mu_s$ is a row vector of utilization rates. The total service requirement of type s associated with final demand Y is:

$$(6) \quad U_s = \mu_s X = \mu_s \, (I-A)^{-1} \, Y.$$

Multiplication of the vector of utilization rates by the interindustry interdependence coefficients $(I-A)^{-1}$ yields the direct and indirect amount of community service requirements per unit of sector output delivered to final demand or export demand.

## Results of Public Service Requirements Studies

Results of two public service requirements studies are given in Tables 2.4, 2.5 and 2.6. The first deals with solid waste management services [13].

Solid waste coefficients and an interindustry model comprise a waste generator. Table 2.4 presents solid waste coefficients, employment, total wastes generated, and a set of direct, indirect, and induced waste coefficients in thousands of pounds of waste per year per employee for a substate planning region in south central Oklahoma. Types of solid waste from agriculture and mining enterprises were excluded from this analysis. The highest waste coefficient, 82.504, is associated with construction and the lowest, 1.348, is associated with apparel manufacturing.

Multiplication of solid waste coefficients times 1970 estimated employment furnishes an estimate of waste in thousands of pounds per year associated with regional endogenous sectors, including state and local government and household consumption. This estimate, when added to the regional wastes generated by federal employment and off-base military households, furnishes an estimated regional waste generation of 787 million pounds during 1970, or 9.7 pounds per day per person.

### Projecting waste generation

A set of direct, indirect, and induced solid waste coefficients furnish projection parameters of amounts of solid waste generated by each sector's additional delivery to final demand requiring one additional

Table 2.4. Direct, indirect, and induced solid waste coefficients and solid waste generation, planning district nine, south central Oklahoma, 1970.

| Sector | | Solid Waste[a] Coefficient, (1,000 lbs. per employee) (1) | Employment 1970 (2) | Waste in Thousands of Pounds per Year (3) | Direct, Indirect, and Induced Solid Waste Coefficients (1,000 lbs.) (4) |
|---|---|---|---|---|---|
| Farms-Ranches | (1) | -- | 11,370 | -- | 20.246 |
| Agricultural Service | (2) | 7.620 | 1,128 | 9,357 | 34.246 |
| Mining | (3) | -- | 2,280 | -- | 24.358 |
| Construction | (4) | 82.504 | 2,589 | 213,603 | 106.197 |
| Transportation | (5) | 7.620 | 1,772 | 13,503 | 22.293 |
| Finance-Real Estate | (6) | 7.620 | 3,194 | 24,338 | 23.702 |
| Utilities | (7) | 7.620 | 1,557 | 11,864 | 24.209 |
| Food Manufacturing | (8) | 9.479 | 931 | 8,825 | 52.884 |
| Apparel Manufacturing | (9) | 1.348 | 1,591 | 2,145 | 15.906 |
| Wood-Paper | (10) | 26.459 | 227 | 6,006 | 40.086 |
| Printing-Publishing | (11) | 16.500 | 517 | 8,531 | 30.604 |
| Petroleum Refining | (12) | 19.394[b] | 664 | 12,878 | 65.463 |
| Leather-Plastic-Rubber | (13) | 15.006 | 82 | 1,230 | 32.096 |
| Concrete Products | (14) | 5.280 | 471 | 2,487 | 19.195 |
| Metal Manufacturing | (15) | 2.937 | 3,936 | 11,560 | 16.991 |
| Construction Materials | (16) | 7.620 | 558 | 4,252 | 28.957 |
| General Sales | (17) | 7.620 | 1,747 | 13,312 | 23.760 |
| Food Sales | (18) | 35.700 | 1,592 | 56,834 | 66.454 |
| Gasoline Service | (19) | 7.620 | 800 | 6,096 | 40.261 |
| Auto Sales | (20) | 7.620 | 1,333 | 10,157 | 26.845 |
| Clothing Sales | (21) | 7.620 | 767 | 5,845 | 22.861 |
| Furniture Sales | (22) | 7.620 | 567 | 4,321 | 33.586 |
| Eating Establishments | (23) | 7.620 | 2,620 | 19,964 | 24.098 |
| Miscellaneous Retail | (24) | 7.620 | 1,218 | 9,281 | 23.411 |
| Lodging | (25) | 7.620 | 527 | 4,016 | 28.806 |
| Personal Services | (26) | 7.620 | 1,786 | 13,609 | 21.522 |
| Business Services | (27) | 7.620 | 1,248 | 9,510 | 22.125 |
| Professional Services | (28) | 7.620 | 2,064 | 15,728 | 21.113 |
| Automobile Repair | (29) | 7.620 | 461 | 3,513 | 26.395 |
| Recreation | (30) | 7.620 | 338 | 2,576 | 24.476 |
| Miscellaneous Repair | (31) | 7.620 | 286 | 2,179 | 26.299 |
| Medical Services | (32) | 7.620 | 2,342 | 17,846 | 23.823 |
| Wholesale Trade | (33) | 7.620 | 2,032 | 15,484 | 20.037 |
| Households | | 2.089[c] | 69,188 | 144,534 | 12.417 |
| State and Local Gov't. | | 7.620 | 8,097 | 61,699 | 23.034 |
| Federal Employees[d] | | 7.620 | 2,752 | 20,970 | |
| Off Base Military | | 2.089 | 9,100 | 19,010 | |
| Total | | | | 787,063 | |

---

[a] Sectors 8-15 and 18 calculated from: Combustion Engineering, Inc., Technical-Economic Study of Solid Waste Disposal Needs and Practices, Bureau of Solid Waste Management, 1969. Remaining sectors derived from: C. G. Golueke and P. H. McGauhey, Comprehensive Studies of Solid Waste Management, First and Second Annual Reports, Bureau of Solid Waste Management, 1970.

[b] Refining wastes excluded.

[c] Average residential waste per employee of the labor force.

[d] Excludes federal civilian employment at Fort Sill.

Table 2.5. Water multipliers by water-using sectors for the southern Kansas economy, 1965.

| Water-Using Sector | Direct Effects[a] | Direct and Indirect Effects | Direct, Indirect, and Induced Effects | Water Multipliers | |
|---|---|---|---|---|---|
| | | | | Type I | Type II |
| | (1) | (2) | (3) | (4) | (5) |
| | | Instream and Withdrawal Water Requirements | | | |
| 2. Livestock | 33.896 | 52.055 | 77.955 | 1.536 | 2.300 |
| 3. Mining | 33.461 | 48.334 | 61.818 | 1.444 | 1.847 |
| 5. Agri. processing | 8.222 | 36.471 | 58.781 | 4.436 | 7.149 |
| 6. Chemicals | 17.088 | 37.652 | 47.189 | 2.203 | 2.762 |
| 7. Metal, mach., equip. | 3.527 | 10.654 | 29.719 | 3.021 | 8.426 |
| 8. Other mfg. | 12.959 | 22.702 | 39.591 | 1.752 | 3.055 |
| 9. Trans., comm., util. | 249.163 | 287.644 | 309.974 | 1.154 | 1.244 |
| 14. Households | 14.975 | -- | 48.692 | -- | 3.252 |
| | | Withdrawal Water Requirements | | | |
| 2. Livestock | 33.896 | 44.940 | 58.640 | 1.326 | 1.730 |
| 3. Mining | 33.461 | 39.976 | 47.109 | 1.195 | 1.408 |
| 5. Agri. processing | 8.222 | 27.163 | 38.965 | 3.304 | 4.739 |
| 6. Chemicals | 17.088 | 26.370 | 31.416 | 1.543 | 1.838 |
| 7. Metal, mach., equip. | 3.527 | 3.956 | 14.040 | 1.122 | 3.981 |
| 8. Other mfg. | 12.959 | 14.032 | 22.966 | 1.083 | 1.772 |
| 14. Households | 14.975 | -- | 25.756 | -- | 1.720 |

SOURCE: Robert R. Fletcher. The Impact of Economic Development on Water Resource Use. Unpublished Ph.D. dissertation, Oklahoma State University, Stillwater, May, 1971, p. 63.

[a] Gallons of water required per dollar of output.

Table 2.6. Water requirements per man-year of employment by water-using sectors for the southern Kansas economy, 1965.

| Water-Using Sector | Output per Man-Year of Employment | Direct Water Requirements per Man-Year of Employment | Total Instream and Withdrawal Water Requirements per Man-Year of Employment[a] | Total Withdrawal Water Requirements per Man-Year of Employment[b] |
|---|---|---|---|---|
| | (Dollars) | (Gallons) | (Gallons) | (Gallons) |
| 2. Livestock | 17,948 | 608,365 | 1,399,240 | 1,052,471 |
| 3. Mining | 19,899 | 665,840 | 1,229,806 | 937,503 |
| 5. Agri. processing | 63,343 | 520,806 | 3,723,242 | 2,468,100 |
| 6. Chemicals | 84,495 | 1,443,850 | 3,987,914 | 2,653,796 |
| 7. Metal, mach., equip. | 22,642 | 79,858 | 672,884 | 317,915 |
| 8. Other mfg. | 19,473 | 252,351 | 770,932 | 447,166 |
| 9. Trans., comm., util. | 17,320 | 4,315,503 | 5,368,486 | -- |

SOURCE: Robert R. Fletcher. The Impact of Economic Development on Water Resource Use. Unpublished Ph.D. dissertation, Oklahoma State University, Stillwater, May, 1971, p. 67.

[a] Computed from instream and withdrawal Type II water multipliers.

[b] Computed from withdrawal Type II water multipliers.

employment unit. These coefficients, recorded in the last column of Table 2.4, have a range of 12 to 106 (units in thousands of pounds).

The direct effect of an additional employee by sector in terms of generated solid waste is equal to the coefficient in column one. The sum of the repercussions in generation of solid waste in other economic sectors due to an employment increase in a sector for delivery to final demand is the indirect effect. The induced effect accounts for additional employment required to service household consumption and purchases by state and local government. The strength of the interindustry model for projection is its ability to capture the indirect and induced effects of solid waste generation throughout the entire regional economy (column four). The direct amount of solid waste produced by a specified change in regional employment can be estimated at a single source, but the indirect and induced effect, revealed to be two or three times larger than the direct effect, is distributed throughout the region.

## Limitations of the waste generator

The direct, indirect, and induced solid waste coefficients are subject to limitations of the theoretical input-output model, empirical data used in estimating the regional input-output model, and survey data adapted for estimating solid waste coefficients. A further limitation is failure to describe solid waste generated for public disposal (i.e., the utilization rates). In one study it was estimated that only 34 percent of the wastes generated actually enter public disposal sites. Solid wastes for disposal might be estimated in the waste generator by method and type of collection process for purposes of consistency with the complete collection-transfer-disposal model. That is, residential waste, which has one method and cost of collection, can be distinguished in the waste generator as waste of type k = 1. Commercial and institutional waste which is publicly collected and disposed [illegible] (k = 2) can be distinguished from that portion which is privately collected and transferred but disposed of in a public site (k = 3). The remaining solid wastes may be eliminated from the planning model unless they are in some way a nuisance to the public and policymakers wish to exert some control over their disposal.

### Instream and withdrawal water requirements

A second study focused on the impact of economic development on water resource use in the nature of instream and withdrawal water requirements per unit of employment by major economic sectors [1]. The Type I water mulitplier in Table 2.5 estimates the total water requirements necessary to sustain the increased economic activity in the southern Kansas area associated with a one-gallon increase in the direct water requirement for a major water-using sector. The Type II water multipliers include the induced effect of increased water required by the household sector for each additional one-gallon direct water requirement by a water-using sector.

Two categories of water multipliers were estimated. The first category includes both instream water requirements for the generation of hydoelectric power and withdrawal water requirements for the other water-using sectors. The second category of water multipliers only includes withdrawal water requirements. Both categories of water multipliers are useful for analyzing the effects of economic development on water resource requirements.

Water multipliers can be used to estimate total water requirements to support an additional job or man-year of employment in one of the major water-using sectors (Table 2.6). Direct water requirements have been estimated in terms of gallons of water required per one dollar of output. Output per man-year of employment can be calculated from the direct employment effects. For example it requires 15.787 man-years of labor to produce $1,000,000 of output in the agricultural processing sector. Since each one dollar of output requires 8.222 gallons of water, 520,806 gallons of water are required directly for each man-year of employment.

Total water requirements associated with each job in agricultural processing can be determined by multiplying the direct water requirements by the Type II water multiplier. Total instream and withdrawal water requirements needed to support one additional job in agricultural processing are 3,723,242 gallons of water and the total withdrawal requirements are 2,468,100 gallons.

# PUBLIC SERVICE SECTOR SUPPLY ANALYSIS FOR RURAL REGIONS

Numerous studies are available on the analysis of costs in supplying community public services, but the number of studies applicable to conditions of sparsity of population and a declining population base is limited. Hirsch, in a book on the economics of government, summarizes several studies on the costs of public services but does not report on studies with population bases of less than 50 thousand [6]. Hence, neither the rapidity to which unit costs reach the essentially horizontal or lowest point on the long run average cost curve nor the effect of population density or fragmentation of bases has been sufficiently tested for each community.

Furthermore, most studies have "adjusted out" quality differences in estimating the economies of size for the "pure" or "basic" public service and/or have assumed quality characteristics to be independent of scale. The economies of size for a particular quality of service, however, may be as important as for the "basic" service itself.

Studies relating to cost of supplying community services in rural areas have not been searched out, categorized by relevant variables, and catalogued for easy reference. The state of the arts in evaluating rural public services has not been specified in a manner parallel to Hirsch's analysis of the costs of supplying urban services. A similar reference work is suggested as future research where factors of density, distance, and service growth or decline have been considered for rural areas.

A systematic search of the literature would include the conventional sources of the Agricultural Experiment Station including research bulletins and the CRIS information service. References in civil engineering, public works authorities, and city and regional planning should be checked for relevant studies.

## Generalized Community Service Cost Function

### Average unit cost

White [16] and Hirsch [6] have formulated generalized cost functions for some community services. Consider average unit cost of supplying a community service as a function of uncontrolled quality variables, uncontrolled environmental variables, regional variables, technology, scale of output, and service process variables:

$$(7) \quad C_s = f(V_1, \ldots V_v, E_1, \ldots E_e, R_1, \ldots R_r, T, T_p, Q, X_1, \ldots X_n)$$

$C_s$ = average unit cost for service s

$V_1, \ldots V_v$ = uncontrolled quality variables

$E_1, \ldots E_e$ = uncontrolled environmental variables

$R_1, \ldots R_r$ = regional variables

$T$ = state of technology

$T_p$ = technology permitted for service s

$Q$ = scale of plant

$X_1, \ldots X_n$ = service process variables

In this formulation $C_s$ is the average unit cost of supplying a community service of a predetermined or controlled quality.

Uncontrolled quality variables are those for which we have no present interest, but, for estimation purposes, are accounted for as independent variables and affecting unit costs. For example, frequency of solid waste collection service may be a quality variable for which we would like to measure the cost effects relative to all other independent variables. Other quality variables, such as location of collection container, may be assumed uncorrelated with the remaining independent variables, and their cost effects "adjusted for" in the estimation procedure. Uncontrolled environmental variables are another set of variables for which we would like to measure effects on service cost. White, in estimating costs of educational services, has considered such environmental variables as race, parents' education, and parents' income [16]. Geological variables may be considered uncontrolled environmental variables in solid waste disposal services if different geological formations affect disposal costs.

Regional variables are a set of conditions unique to a region and for which independent observations and projections are available. Regional variables include region-specific, process-variable input prices; service unit density; and distance or transport cost. Service unit density and/or transport cost are very important elements in the overall unit cost function and are distinguishing characteristics of rural versus urban cost functions. Transport costs are most relevant when service areas are combined for large plant efficiency.

State of technology, T, in supplying community services, is an important variable in considering service unit costs. Input-output relationships are assumed fixed by known technology. However, for any given region or any given time period, technology may be limited by regional policy makers or by fixed plant investment. Programmed instructional methods may or may not be permitted by local policy makers in considering educational services. Similarly, individual, permanently located containerized units may not be permitted in refuse collection since, to some, it detracts from the appearance of the neighborhood. It could be argued that technology affects the quality of service, since the method of service is not independent of satisfaction derived from a unit of service output. $T_p$ indicates the state of technology permitted by local policy and for which differences in unit costs can be estimated by comparing against costs using the complete state of known technology, T.

Scale of plant, Q, is indicative of economies or diseconomies of size, independent of transport costs. For the long run, size of plant is a variable and can be optimally determined internally through aggregation of service areas. For the short run or because of institutional restrictions, the scale of plant may be fixed. Again, because of institutional restrictions barring consolidation of service areas, differences in unit costs can be estimated for less than optimum plant size.

Service process variables are all those controlled inputs contributing to service level output. Process variables constitute traditional inputs, such as labor, equipment, buildings, and land, and those nontraditional inputs, such as a science or language laboratory or a planning-management staff.

## Data

Cross-sectional data have been most useful in estimating unit cost functions where existing systems serve as observations. Hopefully, sufficient observations would be available to statistically measure the effects that uncontrolled quality and environmental variables, regional variables, and service process variables have on average unit cost. Cross-sectional data, however, could be supplemented with engineering estimates in those cases where additional cost information is needed.

Unfortunately, extension of community services, such as solid waste collection and disposal, water, and sewers into rural regions, is relatively recent with few systems available for cross-section observation. Under these conditions regional variables characteristic of rural areas are frequently unobservable. Similarly, new technologies geared especially for rural areas, such as plastic water lines, have a relatively short history of performance and, subsequently, few systems available for observation. Engineering budgets may need to be relied upon for such cases.

## Testing service areas and aggregation levels

Two of the important issues involved in supplying community services to rural areas are: (1) for what service areas is it economically efficient to provide a community service and (2) what level of service area aggregation is optimum in terms of lowest unit cost? In Table 2.7 several types of service areas have been delineated for a few community services. (The list is not exhaustive.) Service areas include: agricultural range and cropland; open country low density, subdivision, and urban fringe; city; school district; county; and region. X's indicate service is provided but not necessarily at location of user. A's indicate service area must be tested for optimum level of providing service or whether aggregation of two or more service areas will decrease unit cost. S's indicate service area must be tested as to whether service can be offered collectively at less cost than comparable individual supply units.

Not all rural regions will have comparable results for the two questions posed. A rural region's quality, environmental, and region variables must be considered when answering the above questions.

## Results of Service Cost Functions for Rural Regions

### Educational services

Numerous studies provide background data for quantifying the relationship between school size and per capita student cost. While these studies contribute substantially to our knowledge of the economies of school size, they have several shortcomings. One is the failure to account for the trade-off between transportation costs and class size.

Table 2.7. Defining service areas for supplying community services in rural regions.

| Community Service | Agricultural | | Open Country | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Range land | Crop land | Low density | Sub-division | Urban fringe | City | School District | County | Region |
| Education | | | | | | | | | |
| Elementary | X | X | X | X | X | X | A | A | |
| Secondary | X | X | X | X | X | X | A | A | A |
| Technical | X | X | X | X | X | X | X | A | A |
| Solid Waste | | | | | | | | | |
| Collection | | | S | S | S | A | | A | A |
| Disposal | X | X | X | X | X | X | | A | A |
| Water | | | | | | | | | |
| Distribution | | S | S | S | S | A | | A | |
| Treatment | | | | | | A | | A | |
| Sewer | | | | S | S | S | | | |

X: service provided but not at location of user.

S: service area must be tested for collective supply.

A: service area tested for lowest unit cost.

Transportation cost per student increases while instructional cost per student declines as school size expands. This trade-off is of particular relevance to less densely populated rural areas.

A recently completed study in Oklahoma corrected for transportation cost differentials in determining optimal school size [17]. The data were obtained from the Oklahoma State Department of Education which assessed approximately 100 characteristics associated with school programs, pupil backgrounds, and resultant achievement. Students in the fourth, eighth, and eleventh grades of the sampled schools completed standardized achievement and IQ instruments and filled out a personal questionnaire. Date were also obtained from the students' parents and school administrators.

Achievement test scores, absentee rates, and dropout rates were alternatively used as dependent variables. Independent variables included socioeconomic background of students, class size, teacher salaries, curricula, materials, and equipment.

School district cost functions were estimated by regression analysis and "engineering" budgetary procedures. School costs are divided into a fixed component, embodied in plant and some administrative expenses, and a variable component, generally coincident with instructional costs--teachers, textbooks, some equipment, and some administrative personnel. Available evidence supports the hypothesis that there is a relationship between per pupil expenditures and average daily attendance and implies some economies of scale in education. Teacher qualification and workloads, teaching innovations, and instructional materials are significantly related to total expenditures per pupil. Educational process variables affect both the output and the cost of education. For a given quality of education, these input-output relationships and cost functions were used to find the minimum cost of output for given surrounding conditions, such as population density and socioeconomic background.

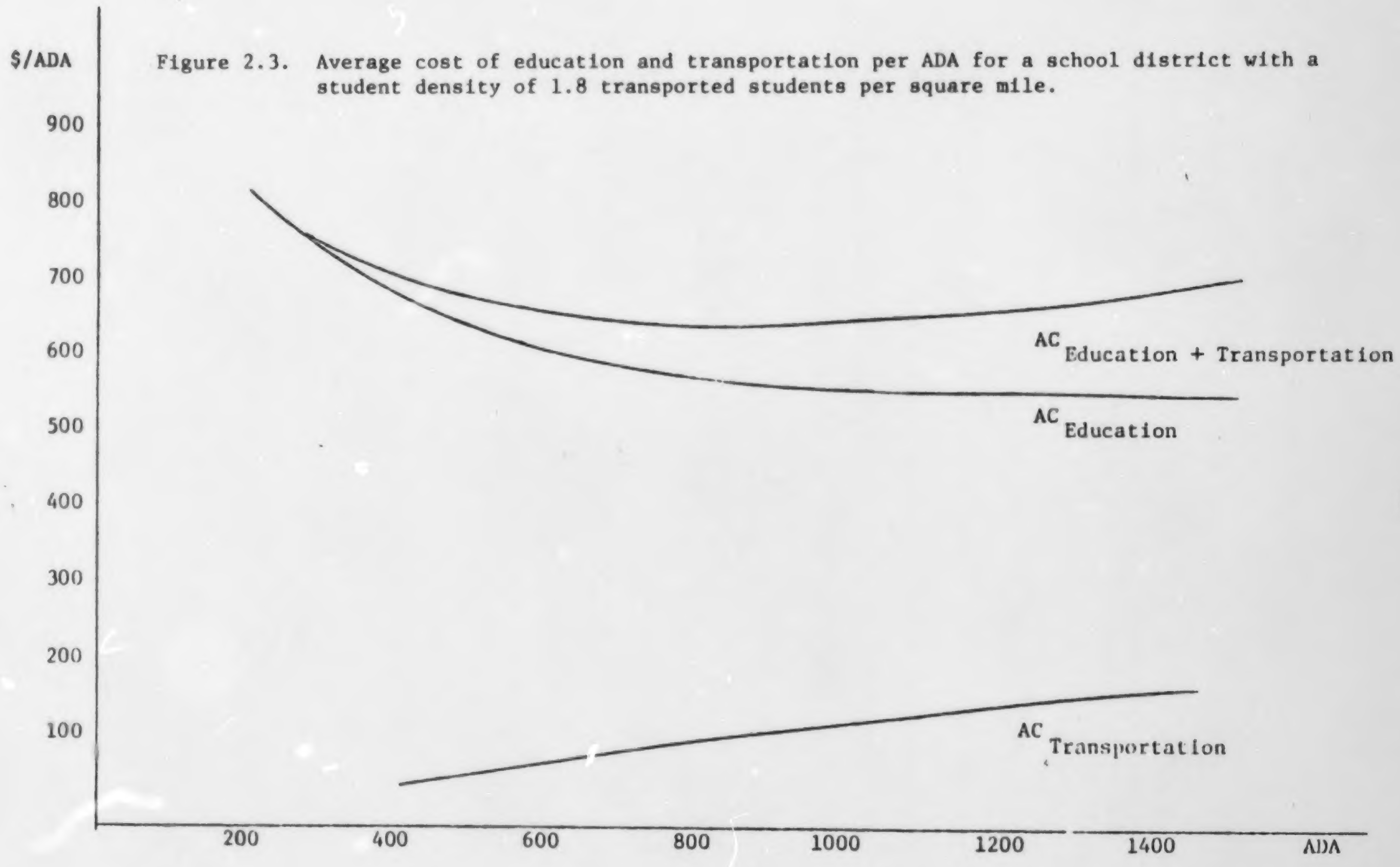
In Figure 2.3 the average transportation and educational cost curves were added together to get the average cost of all the school district's functions. This curve's minimum occurs at 675 average daily attendance. However, the curve is very flat between 400 and 1,100 ADA. School districts can operate anywhere within this range without significant differences in per unit costs.

### Solid waste collection and disposal Services

The literature indicates that refuse collection does not show any significant economies of size. Quality of service and density of residential and commercial areas far outweigh any effects of scale economies or diseconomies for the relevant range in rural areas. Quality of service is reflected in collection frequency, pickup location, and nature of pickup. The latter two service qualities are extremely important for rural areas because they affect the type of technology that can be used and subsequently collection costs.

Because of lumpiness of equipment items and health laws requiring daily covering of solid waste in sanitary landfills, economies of size in

Figure 2.3. Average cost of education and transportation per ADA for a school district with a student density of 1.8 transported students per square mile.



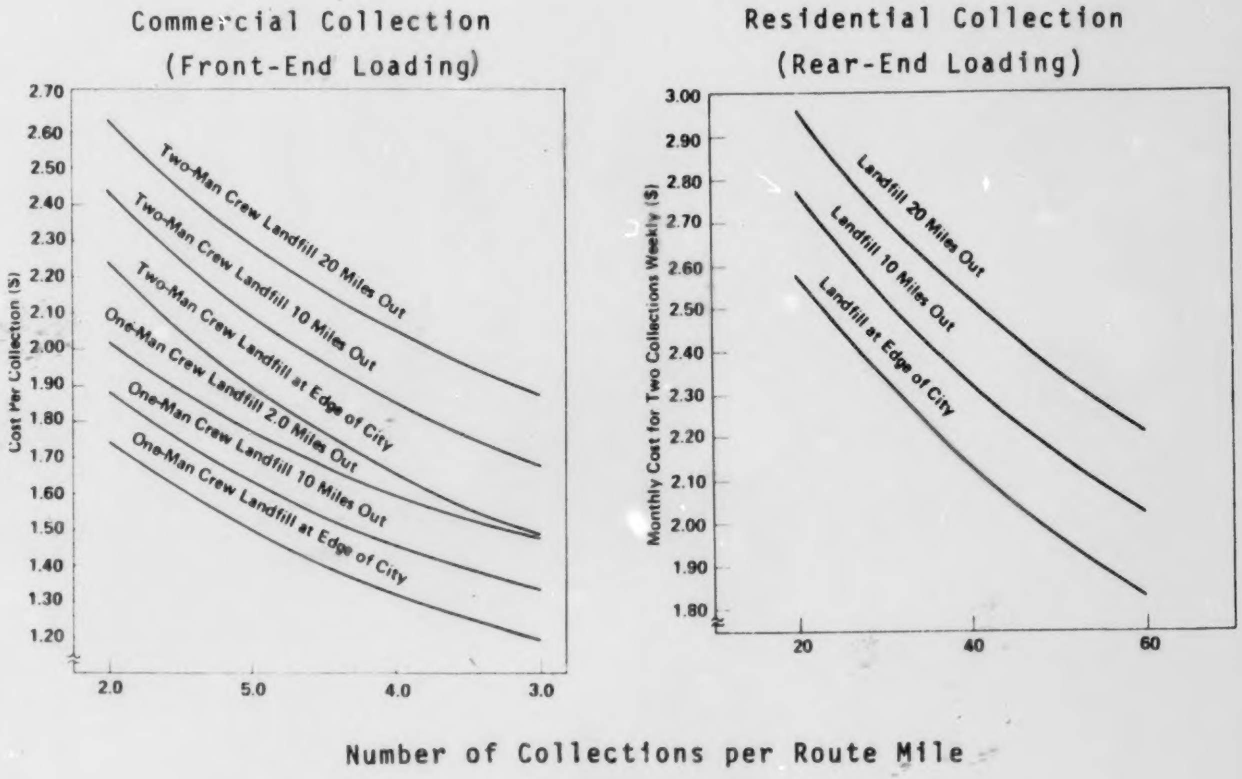
Source: Fred White and Luther Tweeten. Average Cost of Common Schools. Research Application in Rural Economic Development and Planning, Research Report P-665, Oklahoma Agricultural Experiment Station, Stillwater, July 1972, p. 98.

operating disposal sites are significant. Economies of size over both collection and disposal services are limited in rural areas by increased transfer costs as the number of collection areas are increased for a given disposal site.

Costs of refuse collection. Budget data have been used to calculate cost per collection and per ton of solid wastes for two different technologies. These data have been supplemented with time and motion observations to determine effects of pickup density and nonroute miles on collection costs; both factors are important for rural areas (Figure 2.4).

Cost per ton of solid waste collected and transferred to disposal site varied substantially depending upon whether the establishment was residential or commercial. Decreasing the residential density by 50 percent from a normal municipal system (which would be a typical level for newer subdivisions and would be similar to the level found in many small rural communities) had the effect of increasing cost per collection by about $.05 or $0.46 per month. Increasing nonroute distance by one mile over the average distance for all routes in a typical municipal system had the effect of increasing cost per collection by about four-tenths of a cent or a little over $0.03 a month. Such transfer costs become important when we consider area-wide disposal services, since this is where we expect to achieve economies of size.

Figure 2.4. Commercial and residential costs of solid waste collection by density of collections and distance to landfill, Oklahoma, 1971.



Source: Dean Barrett, Dean Schreiner, and Bob Davis. Costs of Solid Waste Collection. Oklahoma State University Extension Facts No. 819, Stillwater.

Costs of refuse disposal. For rural areas the apparent least-cost method for disposing of solid waste is by means of landfill. Golueke and McGauhey report an average cost for sanitary landfill of about $1.13 per ton of solid waste disposed with a range of from about $0.50 per ton to about $2.00 per ton [3, p. 20]. For metropolitan areas with increasing problems of finding suitable disposal sites and hence increasing land and transfer costs, incineration is one alternative disposal method. Costs of incineration are reported to run from about $4.00 per ton to over $12.00 per ton. Clearly, for rural areas with an abundance of possible disposal sites, landfill is the least-cost alternative. Recycling of solid waste is still in the experimental stage but when fully operational will probably show substantial economies of size.

Survey data reported by Golueke and McGauhey were used to estimate average cost per ton of solid waste disposed by means of landfill. Forty-one sites in California were surveyed with data reported on yearly waste disposed, annual wage payments, long term capital expenditures (site modification), short term capital expenditure (equipment depreciation), annual maintenance and equipment operation costs, and a series of qualitative characteristics. Land costs as well as long term capital expenditures for site modification were excluded in estimating disposal costs. Such costs vary substantially by location and by expected use of sites once landfill has been terminated. It is frequently argued that the increased value of reclaimed land reduces land and site modification costs to near zero, particularly if landfills are short-lived.

Capacities of over one million tons annually tend towards a cost of $.63 a ton, but such capacities are unrealistic for rural areas. Cost per ton almost doubles for capacities of 50 thousand tons annually over the minimum cost size and equals $3.42 per ton for capacities of only 10 thousand tons.

The results indicate that small rural communities will have to pay more for collection and disposal services than small metropolitan areas in the 50,000 to 250,000 range for two reasons. First, rural communities are generally less densely settled than the metro areas. Decreasing density by 50 percent in a budgeted municipal system had the effect of increasing collection costs by 20 percent. If a different technology is used which requires multiple resident use of strategically placed containers, it is possible that collection costs will not increase. However, it can be argued that the same quality of service is not being provided. Second, because of imperfect divisibility of capital inputs, landfill disposal methods show significant economies of size. Excluding land costs, expected disposal cost per ton of solid waste was more than three times as much for the smallest landfill capacity versus the capacity for a metropolitan area of about 250,000. Increased transfer costs in the metropolitan area will tend to eliminate part of this advantage. At the same time, rural areas may be able to reduce total collection and disposal costs by utilizing area-wide disposal facilities.

## Water and sewer services

Population settlement patterns in rural areas are going through a period of substantial change. Technology is permitting extension of several community services--previously limited to built-up areas--into the urban fringe and out into the open country. Coupled with relatively cheap land prices and a desire for country living, the trend undoubtedly is toward more residential use of what previously has been strictly agricultural and timber land.

Settlement patterns that are evolving are not necessarily the most efficient nor, perhaps, the most desirable. Rapid change has not been conducive to adequate community service planning. As brought out earlier, insufficient data are available on costs of supplying services to dispersed populations. Information on projected number of residences, businesses, and other establishments has not been available for purposes of planning the right amounts of community services.

Water and sewer services especially fit this pattern of supplying services without adequate data and planning. A major proportion of rural water districts have proven to be inadequate within five years of inception. It is not infrequent to find residential areas that, for purposes of sewer services, have gone from individual septic systems, to area lagoons, and finally to a city sewer system all within a short period of time. At the same time many rural communities and areas do not have adequate water and sewer systems. Uncertainty about the costs of providing the services and uncertainty about long-term amortization periods have prevented rural regions from investing in needed services.

Information in Table 2.8 is indicative of the data on sewage collection, transmission, and treatment costs needed not only for the urban-rural fringe but for the rural communities and rural areas. These results show substantial reduction in collection costs of sewage as density increases. Further, as would be expected, transmission costs increase with distance to the treatment plant.

## REGIONAL PUBLIC POLICY AND SERVICE SECTOR ANALYSIS

Figure 2.1 at most is a very gross representation of a public services planning model. Additional feedback loops should be included to make the analysis more complete and to give a more dynamic nature to the planning process. Specifically, results of the service supply models may have substantial impacts upon the future spatial distribution of jobs and people. The planning framework does, however, clarify some specific areas of research and shows their relationship to other planning components.

Public revenue models have not been discussed in the analysis so far, and specific treatment is not proposed for this chapter. Rather, two studies are mentioned to show the integration of revenue models and public service policy analysis.

Table 2.8. Sewage collection, transmission, and treatment costs by varying densities and transmission distances (1957-59 dollars).

| Density (people/acre) | Annual Cost ($/capita/year) | | | | |
|---|---|---|---|---|---|
| | Collection Costs | Transmission Costs miles to treatment plant 5 | 15 | 25 | Treatment Costs |
| 0.4 | 33.60 | 4.50 | 28.80 | 53.80 | 2.07 |
| 1 | 14.59 | 1.80 | 11.50 | 21.50 | 2.07 |
| 4 | 6.46 | 0.08 | 6.80 | 12.80 | 2.07 |
| 16 | 4.86 | 0.50 | 5.70 | 10.90 | 2.07 |
| 64 | 1.22 | 0.70 | 4.60 | 9.60 | 2.07 |
| 128 | 0.62 | 0.60 | 3.90 | 7.10 | 2.07 |
| 256 | 0.27 | 0.60 | 2.90 | 5.20 | 2.07 |
| 512 | 0.16 | 0.55 | 2.75 | 4.95 | 2.07 |

SOURCE: Paul B. Downing. Extension of Sewer Service at the Urban-Rural Fringe. Land Economics 45 (1, Feb. 1969): p. 106.

Hirsch, in a well-known study on the fiscal impact of industrialization on the St. Louis economy, showed which industry sectors were paying their way in terms of added schooling revenue and added schooling costs and which sectors were not [5]. His analysis was complete in terms of considering not only direct schooling revenues and costs of specific industries but also a portion of the indirect effects through interindustry linkages with other sectors of the St. Louis economy.

In a study for eastern Oklahoma, a similar analysis was performed for the entire public sector of essentially rural communities [14]. The results showed that the public sector as a whole nearly broke even with local industrialization, although one part of the public sector may be subsidizing or making up losses sustained in another part.

These types of studies are extremely useful in determining regional and national net benefits of existing regional public service policies. They also form the basis from which alternative regional policies may be measured. An important factor in the evaluation of present or proposed regional policies is the distribution of public costs and public benefits. For those community services relying mainly on general public revenue sources for financing, changes in regional public service policies may have unanticipated impacts upon income distribution. Revenue sources closely associated with user fees more equitably distribute public benefits and public costs if the user fees are established on the principle of marginal cost pricing of the service.

A further important area of regional policy analysis stems from the growth center strategy of rural development and people's willingness to commute to jobs. For Oklahoma over 11 percent of the employed labor force in 1970 commuted to a job outside the county of the worker's home. In one county almost 60 percent of the employed labor force living in the county worked elsewhere [10]. In cases of intercounty commuting, the worker's home is part of the property tax base of the county where he lives, while the establishment where he works is part of a different county's tax base. Because of differences in the requirements for industrial development infrastructure versus residential development infrastructure, regional public service policies should allow for concentration of industry apart from the concentration of residences.

## SUMMARY

The major objective of this chapter, to construct a planning framework for rural public sector analysis, perhaps was not a modest goal, although the results should be classified as such. The planning framework is presented in schematic form in Figure 2.1 and can be described in five component parts: (1) a planning decision model, (2) establishing the public service sector base, (3) determining public service requirements, (4) analysis for public service sector supply, and (5) regional public policy and service sector analysis. Each component part can individually circumscribe an area for rural development planning research. In the text of the chapter, results of research studies for specific component parts are given to bear out a certain level of application to the entire planning framework. Much additional research should be performed where characteristics of rural regions are emphasized. Only in this manner can we expect to have the same degree of precision in rural public sector analysis as exists for the urban public sector.

## FOOTNOTES

1. Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Wyoming, and Texas.
2. It is important to note that the change in nonbasic-to-basic employment ratios is occurring in predominately manufacturing export-base regions as well as predominately agricultural export-base regions.

## REFERENCES

1. Fletcher, Robert R. 1971. The impact of economic development on water resource use. Unpublished Ph.D. dissertation. Oklahoma State University, May.
2. Fox, Karl A., and Krishna, T. Kumar. 1966. Delineating functional economic areas. In CAED, Research and education for regional and area development. Iowa State University Press, Ames: Chapt. 1.
3. Golueke, C. G., and P. H. McGauhey. 1970. Comprehensive studies of solid waste management: First and second annual reports. Washington, D.C.: U.S. Public Health Service. Publ. No. 2039.
4. Hamilton, H. R., S. E. Goldstone, J. W. Milliman, A. L. Pugh III, E. B. Roberts, and A. Zellner. 1969. Systems simulation for regional analysis: An application to river-basin planning. Cambridge, Mass.: The M.I.T. Press.
5. Hirsch, Werner Z. 1964. Fiscal impact of industrialization on local schools. Review of Economics and Statistics 46(2):191-99.
6. ________. 1973. Urban economic analysis. New York: McGraw-Hill Book Co.
7. Maki, Wilbur R. 1974. Analyzing alternatives in regional resource development. Regional Science Perspectives 4:81-98.

8. Margolis, Julius. 1968. The demand for urban public services. In Harvy S. Perloff and Lowdon Wingo, Jr., eds., *Issues in urban economics*. Johns Hopkins Press, Baltimore: pp. 527-64.

9. National Planning Association. 1970. State economic and demographic projections to 1975 and 1980. Washington, D.C. Center for Economic Projections, Report No. 70-R-1.

10. Ozarks Regional Commission. 1973. The State of Oklahoma development plan for the Ozarks Regional Commission, 1973. Prepared by the Oklahoma State University Research Foundation, Stillwater.

11. Polenske, Karen R., ed. 1972. State estimates of the gross national product 1947, 1958, 1963. Lexington, Mass.: Lexington Books.

12. Schreiner, Dean F. 1972. Community services in a dynamic rural economy. In A. Gordon Ball and Earl O. Heady, eds., *Size, structure, and future of farms*. Iowa State University Press, Ames: Chapt. 18.

13. _______, George Muncrief, and Bob Davis. 1973. Solid waste management for rural areas: Analysis of costs and service requirements. *American Journal of Agricultural Economics* 55(4):567-576.

14. Shaffer, Ronald E. 1972. The net economic impact of new industry on rural communities in eastern Oklahoma. Unpublished Ph.D. dissertation. Oklahoma State University, Stillwater, May.

15. Soneblum, Sidney, and Louis H. Stern. 1964. The use of economic projections in planning. *Journal of American Institute of Planners* 30(3):110-23.

16. White, Fred. 1972. A quantitative analysis of factors affecting elementary and secondary schooling quality in Oklahoma, with economic application for rural areas. Unpublished Ph.D. dissertation. Oklahoma State University, Stillwater, May.

17. White, Fred, and Luther Tweeten. 1972. Average cost of common schools. Research application in rural economic development and planning. Stillwater: Oklahoma Agr. Exp. Sta. Res. Rpt. P-665, July, pp. 82-102.

18. U.S. Water Resources Council. OBERS projections: Regional economic activity in the U.S. Washington, D.C.

## CHAPTER THREE

# Citizen Participation in the Planning Process

J.C. VAN ES

ALTHOUGH PARTICIPATION of citizens in government is the historical base of our form of government, the scope of the issue has changed recently under the impact of both ideological and organizational changes in society. Contemporary ideology demands effective participation of all citizens in the decision-making process [10]. Not too long ago the right to participate in decisions was predominantly the right of those who provided the resources needed to implement those decisions. Taxpayers, or their representatives, decided on educational policies, not students. Recipients or consumers of services, whether these were welfare payments or mass transit, were rarely asked to decide on the types of services best suited to their needs. However, the list of recent examples of citizens attempting to gain some control over public decisions affecting their lives is lengthy.

Clearly, this redefinition of participation is not a single, unilineal process. After the flurry of excitement in the early- and mid-1960s, the advocates of citizen participation currently seem on the defensive. Many of the traditional decision makers, as well as many of those newly aspiring to enter the decision-making process, have found the experience of the 1960s--involving mainly the inclusion of poor, urban, ethnic minorities in the decision-making process--frustrating.

However, this negative reaction to citizen participation is based more on the strategies used in the 1960s than on the basic issue of citizen participation. The increased complexity of modern society makes concern with citizen participation a permanent feature of our society [4; 33]. As more and more decisions are made by large, rationally organized, bureaucratic organizations, the competition among these bureaucracies for resources will intensify. The competition for public resources will encourage bureaucrats to organize their constituencies through some form of citizen participation.

> Given an interest-oriented conception, therefore, the overriding issue is not whether participation of the poor contributes to the effectiveness of anti-poverty programs. The critical question, rather, is whether the programs can engender among the poor a sense of vested interest in the programs and a growing preparedness to organize and struggle for the introduction, improvement, and enlargement of anti-poverty projects [2, p. 206].

This combination of ideological concern and bureaucratic self-interest forms not only the rationale for citizen participation, but it is probably the strongest reason to expect citizen participation to remain a lasting feature of our political and administrative processes.

In the remainder of this chapter, the various forms of participation, and the goals that are envisioned when participation is encouraged, are discussed. Finally, there is a discussion of some of the persistent problems in making participation work. In order to facilitate the discussion, we will first delineate the concepts of planning and citizen participation.

## PLANNING

In its most widespread meaning, "planning is a deliberate, rational process that involves the choice of actions that are calculated to achieve specified objectives at some future time" [21, p. 49]. Planning in this form can be exercised by any individual or organization. However, for the purpose of focusing this chapter, some further considerations must be introduced to deal with the concept of planning in a sensible way.

Planning as the process of rationally deciding the optimum way of obtaining maximum values assumes both full knowledge of and agreement on the objectives to be attained. The more complex the system for which the planning is done and the larger the number of parties involved in the planning process, the less likely consensus on the objectives will be reached. Thus, it is easier to define objectives for a sales campaign for a single organization than to determine the objectives for a community improvement campaign. Frequently, planning has proceeded on the poorly founded assumption that consensus on objectives existed. On other occasions reacing a consensus has become a goal in itself, while the substantive matter on which consensus needs to be reached is short-changed. Finally, in cases where consensus was reached, it has often been a reflection of the ability of small special interest groups to get their way either through force or through more subtle means of manipulation [31, p. 26].

While clarification of and agreement on objectives may be difficult to reach, determination of the rational way of accomplishing objectives is frequently equally treacherous. In policy planning the causal relationships between means and ends are often uncertain, if not outright speculative

[17; 18, pp. 168-70]. Besides, the means chosen to accomplish objectives often have tremendous implications by themselves [4]. The recent debate on how to curtail the use of gasoline indicates that not one preferable, rational solution to accomplish a particular objective may exist.

Both the decision on objectives and the decision on means to accomplish objectives are thus much less straightforward than may appear after a casual glance at the issues. One solution has been to move away from this "naive" planning model and to define planning in terms of a process in which interested parties interact to reach consensus goals and to make decisions on ways of realizing these goals. This plannning process is then seen as a continuing effort in which progress is incremental. Problems are solved one at a time, as they emerge.

> In this "incremental" planning the means-end relationship is described in more complex and subtle terms. It is not to be viewed as a simple linear relationship but as an interacting chain in which both ends and means are subject to continuous redefinition and correction in the light of experience [21, p. 50].

There is considerable debate concerning the desirability of the rational planning model over the "incremental" concept of planning, but it appears that the incremental model accurately reflects the form of the majority of ongoing planning efforts.

If the planning process, then, is very much one of ongoing interaction in which future goals are determined and means are chosen to reach the goals, the continuous involvement of all "interested parties" in this process becomes crucially important. The planning process by its very nature requires citizen participation.

In this chapter the concern is with planning for the public good rather than for the private interest. Most planning for the public good involves decisions on the allocation of public resources, especially of tax funds, but private foundations and agencies may operate in this arena as well. The administration of the funds or the organization of resources is in the hands of so-called technicians or experts employed by bureaucratic organizations. We are not concerned with the degree to which the bureaucracy is specialized to perform planning functions only. Although specialized planning agencies may have some specific problems resulting from the limited resources they control, we are most concerned with the interaction in the planning process between the bureaucrats and the lay citizens; these problems appear similar wherever bureaucracies plan in order to promote the public good.

The planning process thus refers to that process in which bureaucratic technicians and others outside the bureaucracy, through continuing interaction, attempt to determine major objectives to promote the public good and ways to reach these objectives.

## CITIZEN PARTICIPATION

Participation by citizens has been defined thus:

> Citizen participation represents the acts of those who are not formally part of the legislative or public administrative hierarchy, but who nonetheless

> intend to influence the efficacy of the program and the behavior of those public officials responsible for ultimate policy and operational decisions [29].

Some forms of citizen participation are relatively spontaneous and short-lived moments, usually of a protest nature. This participation seems to function essentially as an exercise of veto power. While they are frequently effective in forcing bureaucracies to undertake a specific action, they appear incongruent with the continuing nature of the planning process. We will not consider those types of short-term protest actions here.

The representatives of bureaucracies always form one group of participants in the planning process; the citizens make up the other component. Citizen participants in this context are generally considered lay people rather than professionals with explicit expertise in planning. In addition, citizens participate in the planning process as representatives of the public, although in practice both the delineation of who is being represented and the form of choosing or appointing participants in the planning process often remain obscure.

Citizen participation, finally, is usually sponsored by the bureaucratic organization. The bureaucracy tends to initiate the process, define its purpose, and set its boundaries [27]. Especially over time the citizen participants tend to be unable to pursue their objectives when the bureaucracy withdraws from the process and refuses to involve the citizens further. In many instances, of course, local representatives of a bureaucracy may be forced to interact with citizen participants because of directives from the central leadership. Those situations confirm the

the notion that citizen participation takes place at the discretion of bureaucratic organizations.

Wireman, describing citizen participation in federal programs, appears to capture the essence of most citizen participation:

> Citizen participation as used here means an ongoing organized, group activity to affect a federal government program at a local level (usually neighborhood) which is recognized as legitimate by the implementing agency and which occurs within the restrictions imposed by that agency. Citizen participation is a type of special action system involving some bureaucrats and some citizens for limited types of interactions. It will continue to exist, at least on paper, as long as there are enforced governmental regulations requiring the local agency to participate and some citizens who are willing to cooperate. But it will only function in a creative fashion if both the agency and the citizens feel that their goals are being met [35].

While citizen participation has an aura of contemporaneity, it has some well-established roots in the general political philosophy of local autonomy; the emphasis on self-help and local control is embodied in the community development efforts advocated at home and especially in the developing countries [21, pp. 4-5; 6; 26; 28].

Although citizen participation has most recently focused on urban programs, its most direct precedents inthe United States are probably the farm programs initiated in the 1930s, in which farmers were involved as local administrators of new national policies. Another long-established form of citizen participation in policy making and execution is the role of local draft boards in the Selective Service system [7, p. 55].

## Degrees of Citizen Participation

The role of non-expert citizens in bureaucratic decision making varies widely between programs (and frequently, within a particular program, between different locales as well) [9, p. 2].

The share of the citizen participants in the decision-making is frequently measured along a continuum ranging from total powerlessness for citizens to full decision-making control.[1] In cases of total lack of power, citizen participation is a form of manipulation by the bureaucracy. Assuming that the citizens have a choice, they can be expected to engage in this form of participation only for such external rewards as money and other kinds of enhancement of their private interests.

At the other extreme, few bureaucracies will surrender to citizen participants all their power to make decisions, including their claims to special expertise and, possibly, their accountability to other constituencies.

In effect, thus, most citizen participation implies some sharing of power between bureaucracy and lay persons. The terms of the sharing arrangement vary between bureaucracies and are likely to vary over time within one bureaucracy. As the citizen receives more decision-making power, his role in the process tends to change from that of advisor to one of decision maker. The bureaucratic expert, at the same time, will find his role falling somewhere between independent decision maker and advisor or consultant. In the section on goals of citizen participation, these various arrangements will be explored further.

## WHO PARTICIPATES?

The position of the citizen participant in the political power structure substantively affects the nature of citizen participation. While in effect the most common case of citizen participation does not involve redistribution of power in society, recent experience has focused on the fact that citizen participation may provide decision-making power to sectors of the population which are underrepresented or not represented in the process of political decision making [9, p. 2].

When citizen participation involves citizens without recognized political power, and if it involves substantial sharing of power, the process of citizen participation can have widespread political repercussions. Meaningful participation needs to be a continuous interaction between bureaucratic experts and citizen participants. However, interaction involving various sectors of the population requires that these sectors be sufficiently organized to interact with one another. One of the frequent consequences of sponsoring citizen participation, therefore, is the building and strengthening of organization among sectors of the population previously inadequately organized [12, pp. 258-9; 20]. There is a widespread belief that when such sectors become effectively organized, they are prone to exercise the newly organized strength beyond the immediate purposes for which they organized [34]. Systematic empirical support for this belief appears lacking, and if it were indeed found that citizen participation organizations tended to focus their attention on other matters, the process through which this occurs is not well understood and the implications are unclear.[2]

While broadening the base of participation has attracted much attention, all knowledge concerning participation points at the difficulties of reaching certain sectors of the population [15; 16; 19]. Citizens of low social and economic status, members of racial minorities, and women are frequently not represented. The more usual citizen participants are local political or economic "elites" or their representatives. Community development and related programs have frequently deliberately aimed at the participation of "local leaders" in program decision making.

Some researchers of citizen participation [32; 34] have pointed out that elites and nonelites tend to act differently in decision-making positions; elites tend to function as consultants, advisors, and legitimizers of the bureaucracy's planning, and their attitudes are considered "public regarding" or community oriented. Experience indicates that planning objectives tend to reflect positions ascribed to by elites, and rarely do they find themselves directly threatened by planning outcomes. However, the assumption that elites represent what is best for all sectors of the population has often proven erroneous. Nonelites have frequently been the ones who carried the costs of planning outcomes; for example, elites have supported urban renewal as beneficial for the community, while nonelites have had to carry the burdens of dislocation and loss of neighborhood.

While elites' attitudes have been described as public regarding, it is argued that nonelite participants are private regarding, or parochial and self-centered, in their interests [34]. Several factors may account for this viewpoint. In the first place, representatives from nonelites frequently become citizen participants precisely in order to represent certain interests not normally represented; thus, they define themselves and are defined by others as "special interest" representatives. In addition, nonelite concerns are sometimes defined as parochial because these concerns are not identical with, and may even run counter to, elite concerns.

For certain purposes, the differentiation between elites and nonelites may appear useful, but the distinction is extremely difficult to apply empirically, and in many instances it is inappropriate.[3] It appears more fruitful to delineate the citizens in terms of their relationship to the bureaucracy. Krause [13] distinguishes between clientele group and target group (see also Stenberg [30] and Rose [25, p. 267]). The clientele group represents those who define the bureaucracy's objectives, provide its resources, and defines its terms of success and failure. The target population consists of those toward whom the programs are directed.[4] Clientele group and target group can be the same but usually are not. In most public assistance programs, for instance, these two groups are not the same. In agriculture extension programs, on the other hand, there has probably been a closer match between clientele and target groups, especially in programs directed at commercial agriculture.

Citizen participation is frequently limited to clientele groups, and the conflicts surrounding some programs can be traced directly, not to the failure to include citizen participation, but to the exclusion of target populations from the participation process.

While status differences between clientele groups and target groups are commonplace, in many situations there may be other criteria for distinguishing between clientele and target populations. Rural development planning, for example, may find clientele groups to consist of statewide and even specifically urban groups, while the target populations may be all citizens of a particular rural area. Because of the low levels of participation found among the poor and the frequent absence of organizational structures among them, target population participation in the planning process should be expected to be more difficult to arrange and sustain when the target population consists of exclusively low-income people than when the target population includes elites.

## SELECTING PARTICIPANTS

Where clientele and target populations have been defined, the process of identifying citizen participants varies tremendously. Citizen participant selection takes on such forms as elections, appointments by leaders of clientele and target groups, self-nomination, and selection by the bureaucracy. Although there is much debate about the merits of various procedures, there is probably not one best way of selecting citizen participants; the optimal way, or at least the acceptable way, of selection is related to the objectives pursued in citizen participation.

The way in which citizen participants are recruited is not without implication, however, self-nominated or bureaucracy-selected citizens are not in a position to represent any particular population sector; they do not speak for anyone but themselves, nor can they be held accountable by any population sector. On the other hand, elections may not be the best way to obtain good minority representation, and bureaucracy-controlled selection has an impressive history of selecting clientele representatives only. Although flexibility in approach appears desirable, this should not be interpreted to mean that ad hoc improvisation is desirable. The absence of guidelines provides both the bureaucracy and the citizen participants with too many opportunities to manipulate the participant-selection process to their advantage.

## GOALS OF THE BUREAUCRACY FOR CITIZEN PARTICIPATION

Citizen participation has been alleged to be a means of accomplishing a wide variety of goals [3]. Given the nature of citizen participation as an activity sponsored by the bureaucracy, most of the discussion of goals, objectives, and functions of citizen participation is phrased in terms of the perspective of the bureaucracy.

For certain programs citizen participation is defined as an educational activity to be undertaken for its own merits [22; 36]. Participation is expected to lead to increased self-esteem and better execution of citizenship obligations and to provide organization skills to population segments which have not had prior opportunities to acquire these skills.

Community development programs, for example, have frequently defined increasing participation as an educational goal. Although the citizen participant may perform certain functions within the bureaucracy, the relationship between the bureaucracy and the citizens is essentially tutorial. These arrangements are frequently meant to be temporary, but intentions to alter the nature of these relationships over time appear to be rarely realized, although the evidence is extremely sketchy.

Most forms of citizen participation are perceived by the bureaucracy as a form of cooptation. The citizen participants are viewed as means to further the established objectives of the bureaucrats [2, pp. 206-207].

Citizen participation is frequently encouraged when the citizen participants are judged to possess information which is useful to the planning process [12, pp. 11-12]. Citizen informants are especially desirable in cases where larger cultural gaps exist between bureaucrats and target populations and in cases where the bureaucracy deals with widely differing local settings. One of the more widely used procedures to obtain citizen information is a citizen needs and preferences survey [8; 14]. However, such surveys are insufficient in a planning situation where continuous interaction between the various groups involved is of the essence.

When clientele rather than the target population provide information input, the objective is frequently to improve operating procedures, to suggest how resources may be put to most efficient use, and to avoid conflicts with established clientele interests. Such information may or may not be guided by knowledge of the needs and aspirations of the target population.

The objective of many citizen participation programs is to provide legitimation for the activities of the agency. Representatives from clientele groups or target groups are frequently chosen for this reason more than any other one. Citizen participation becomes in those circumstances a matter of bolstering the power of the bureaucracy. Boards of "prominent citizens" as well as committes of local residents may find themselves used to protect resources or ward off disgruntled target population members [22].

In some cases the sheer existence of the citizen participants may be enough to legitimize and strengthen bureaucratic programs, but in most cases the citizen participants function as a more active liaison with the community.

We have already mentioned that strengthening one's position in the competition between bureaucracies is another objective the bureaucracy may pursue. Citizen participation thus becomes a means of mobilizing support for the bureaucracy. It is important to consider if a well-organized population sector comes to the aid of "its" embattled bureaucracy, or if popular support for the bureaucracy is mobilized through a paternalistic dependency of the target population on the bureaucracy.

Although education and cooptation may be the major objectives for the bureaucracy when sponsoring citizen participation, citizens may have certain objectives of their own which encourage them to participate in the bureaucratic planning process. Since the bureaucracy usually sponsors the participation, it may not really be surprising that so little is known about the citizen's stake in participation.

## CITIZENS' OBJECTIVES FOR PARTICIPATING

Citizen participants appear to pursue three objectives when participating in bureaucratic decision making: civic duty, personal award, or a desire to affect the direction of the program. These three objectives are not mutually exclusive.

It is impossible to evaluate how much citizen participation is motivated by a sense of civic duty, a commitment to making government work. It must play a role in many instances, but at the same time one does not have to be a die-hard cynic to suspect that a sense of duty to participate in government is articulated as an objective for participation more often than is justified by the facts.

Participation for personal reward is quite common. Personal reward comes sometimes in terms of employment opportunities or additional income especially among the poor and underemployed,[5] and, among middle-class citizens, in terms of protecting or advancing the participant's general economic interests. Given the need for continuous interaction of the bureaucracy with the clientele and target populations, the most conspicuous nonmaterial reward is probably in terms of community contacts or political power. Both the objectives of the bureaucracy and those of citizen participants may frequently be compatible in this respect. Improved communication is instrumental to the objectives of the bureaucracy, and it may be equally useful to the citizen participant, be he or she a local business person or an aspiring local politician.

Citizen participation with the objective of affecting the operation of the bureaucracy to make it better serve the community can manifest itself in many ways. Providing information is one attempt to affect the operation of the bureaucracy; however, there is no guarantee that citizen input will be implemented in the planning process. Citizen objectives of affecting bureaucratic operation are best served when citizen participants share power in the decision-making process.

In the preceding pages, citizen participation in the planning process has been discussed in terms of an interaction between the bureaucracy and sectors of the population in which all parties pursue one or more objectives. Very little has been said about the impact of this interaction on the "product" of the planning process.

## CAN CITIZEN PARTICIPATION BE MADE TO WORK?

Evaluations of the success or failure of citizen participation programs almost invariably succumb to confusion between the various objectives that may have been pursued by the bureaucracy and by citizen participants. The bureaucracy and the citizen participants are frequently unclear about their own objectives, let alone what they project each other's objectives to be [24]. Evaluators, furthermore, have been suspected of superimposing objectives on the citizen participation process which were not considered relevant by bureaucracy or citizen participants.

The ideal criterion for the success of citizen participation is the impact it has on the outcome of the planning process. Frustrating as it may be, the impact of citizen participation on the planning process, or other processes of bureaucratic decision making, is largely unknown and cannot easily be quantified.

The planning process has been defined in terms of a continuous process in which goals are defined and means to achieve goals are determined. A necessary, but not sufficient, condition for a successful outcome of the process is that the interaction is based on consensus. A second set of necessary, but not sufficient, conditions deals with the organizational, administrative conditions under which citizen participation takes place.

Citizen participation in the planning process proceeds on the assumption that the bureaucracy and the various population sectors can arrive at a consensus on goals and means. The clientele and target participants may have irreconcilable differences, however, which lead to conflict rather than compromise and consensus. The bureaucracy may also have points on which it will not compromise. Whenever the planning process concerns itself with a reallocation of resources between the participants, including the bureaucracy, conflict is especially likely.

Conflict may do much to demonstrate the power relations between the participants in the planning process. It may induce either the bureaucracy or the citizen participant to withdraw from the process, or it may lead to stagnation [5]. Conflict is undoubtedly costly, but, in situations of power sharing between approximately equal sectors with divergent interests, it is probably unavoidable.

It has been said that citizen participation cannot be meaningful as long as the citizen participant remains dependent on the bureaucracy for guidance and information [20; 22]. Citizen participants must acquire their own technical inputs from independent experts. In conflict situations this may be the only meaningful strategy, but it should not be assumed that all citizen participation can best be defined in terms of adversary relationships.

It is often reported that much effort was spent in recruiting citizen participants from disinterested, "apathetic" populations. However, why these citizens should be interested in participation is not often considered. The objectives of the bureaucracy may be suspect to the citizen, the rewards perceived as minimal. Citizen participation in the planning process, especially when it takes place in specialized planning agencies, frequently starts with a handicap because planning agencies usually do not have the resources to entice either clientele or target population into participating in the process [11]. "Learning how to plan" is for the citizen participant a far cry from determining the allocation of resources. The ability of planning agencies to encourage citizens to participate is probably proportionate to their control over resources.

Citizen participants are by nature at a disadvantage when it comes to skills and expertise. They need to be educated and informed, and this takes time and effort [8; 14; 24]. Commonly, neither the citizen participants nor the bureaucracy face up to this issue. The situation is frequently aggravated by the pressure of deadlines which eliminates the possibility of meaningful interaction between bureaucracy and citizen participants.

Most of the examples of citizen participation examined recently had experienced a very limited time span. A group of citizens was assembled and began a hasty process of participation in bureaucratic decision making.

It is overlooked that participation in the planning process is a form of interaction that needs to be institutionalized over time. Judgments on successes and failures are often made prematurely, both by participants and outside evaluators.

This chapter began by indicating that concern with citizen participation in the planning process is a specific instance of society's larger concern with the role of citizens in a bureaucratizing society, but that it is also a strategy to advance bureaucratic self-interest. If citizen participation is to be more than a form of citizen manipulation by the bureaucracy, it is essential that the bureaucracy as well as the citizens achieve a clear understanding of the objectives. Citizen participants should be selected for their ability to work towards those objectives. Organizational procedures must be worked out such that citizen participation is given a fair chance to work.

## FOOTNOTES

1. The most widely cited discussion of degrees of citizen participation is Arnstein's work, which describes eight steps of increasing citizen participation in the decision-making process [1]. She explicitly acknowledges the arbitrary nature of selecting eight steps. More important is the potential confusion which may result from combining objectives for citizen participation with degrees of decision-making power. For analytical purposes at least, the two should be kept separate.
2. One reason why there is little empirical support for the notion that population organizations tend to shift goals can be traced to the infrequent occurrence of effective organization by the poor for participation in bureaucratic decision making.
3. One of the most persistent problems is determining who speaks for the nonelites. The evidence overwhelmingly indicates that most successful attempts by nonelites to gain political power have been led by "outsiders" or elites. It is likely that nonelite participation will be, initially at least, from leadership outside their group.
4. This classification is not exhaustive in terms of all members of a community, many of whom may be bystanders in terms of any bureaucracy's program.
5. Employment of persons belonging to the clientele sector has been an important way of influencing bureaucratic action into directions favorable to clientele interests. Employment of target-sector personnel is often expected to have the same type of result.

## REFERENCES

1. Arnstein, Sherry R. 1969. A ladder of citizen participation. Journal of the American Institute of Planners 35 (July):216-224.
2. Bachrach, Peter, Morton S. Baratz, and Margaret Levi. 1970. The political significance of citizen participation. In Peter Bachrach and Morton S. Baratz, Power and Poverty. New York: Oxford University Press.
3. Burke, Edmund M. 1968. Citizen participation strategies. Journal of the American Institute of Planners 34 (Sept.):287-294.
4. Carroll, James D. 1971. Participatory technology. Science 171 (Feb.):647-53.
5. Crain, Robert L., and Donald B. Rosenthal. 1967. Community status as a dimension of local decision making. American Sociological Review 32 (Dec.):970-84.
6. Cunningham, James V. 1972. Citizen participation in public affairs. Public Administration Review 32 (Special issue: Oct.):589-602.
7. Davis, James W., and Kenneth M. Dolbeare. 1968. Little groups of neighbors. Chicago: Markham Publishing Company.
8. Edelston, Harold C., and Ferne K. Kolodner. 1968. Are the poor capable of planning for themselves? In Hans B. C. Spiegel, ed., Citizen participation in urban development, Volume 1--Concepts and issues. Washington, D. C.: NTL Institute for Applied Behavioral Science, pp. 225-40.
9. Florence Heller School for Advanced Study in Social Welfare. 1969. Community representation in community action programs. Waltham, Mass.: Brandeis University, Report No. 5.

10. Goodwin, Richard M. 1967. The shape of American politics. Commentary 43 (June):25-40.

11. Graves, Clifford W. 1972. Citizen participation in metropolitan planning. Public Administration Review 32 (May/June):198.

12. Kramer, Ralph M. 1969. Participation of the poor: Comparative community case studies in the war on poverty. Englewood Cliffs, N.J.: Prentice-Hall Publishing Company.

13. Krause, E. A. 1968. Functions of a bureaucratic ideology: Citizen participation. Social Problems 16 (Fall):129-43.

14. Lazar, Irving. 1971. Which citizen to participate in what? In Edgar S. Cahn and Barry A. Passett, eds., Citizen participation: Effecting community change. New York: Praegar Publishers, Inc., pp. 92-109.

15. Long, Huey B. 1971. A comparison of participants and nonparticipants in a community development program. Journal of the Community Development Society 2 (Spring):59-66.

16. McClusky, Howard Y. 1970. A dynamic approach to participation in community development. Journal of the Community Development Society 1 (Spring):25-32

17. Moynihan, Daniel P. 1974. Coping: Essays on the practice of government. New York: Random House.

18. _______. 1969. Maximum feasible misunderstanding: Community action in the war on poverty. New York: The Free Press.

19. Oberle, Wayne H. 1970. Who are extension council members? Journal of Extension 8 (Fall):25-31.

20. Peattie, Lisa R. 1968. Reflections on advocacy planning. Journal of the American Institute of Planners 34 (March):80-88.

21. Perlman, Robert, and Arnold Gurin. 1972. Community organization and social planning. New York: John Wiley and Sons, Inc., and the Council for Social Work Education.

22. Piven, Frances F. 1966. Participation of residents in neighborhood community action programs. Social Work 11 (Jan.):73-80.

23. _______. 1970. Whom does the advocate planner serve? Social Policy (May/June):32-37.

24. Reidel, James A. 1972. Citizen participation: Myths and realities. Public Administration Review 32 (May/June):211-20.

25. Rose, Stephen M. 1972. The betrayal of the poor: The transformation of community action. Cambridge, Mass.: Schenkman Publishing Company.

26. Rubin, Lillian. 1967. Maximum feasible participation: The origins, implications and present status. Poverty and Human Resources Abstracts 2 (Nov./Dec.):5-18.

27. Seaver, Robert C. 1971. The dilemma of citizen participation. In William R. Lassey, ed., Leadership and Social Change. Iowa City, Iowa: University Associated Press, pp. 233-40.

28. Shamin, Ibrahim. 1959. The role of lay leaders. Community Development 3:81-87.

29. Spiegel, Hans B. C. 1971. Citizen participation in federal programs: A review. Journal of Voluntary Action Research, Mono. No. 1:4-31.

30. Stenberg, Carl W. 1972. Citizen and the administrative state: From participation to power. Public Administration Review 32 (Special Issue: Oct.):190-98.

31. United Nations Department of Economic and Social Affairs. 1971. Popular participation in development: Emerging trends in community development. New York: United Nations Press.

32. Van Til, Jon, and Sally Bould Van Til. 1970. Citizen participation in social policy: End of cycle? Social Problems 17(Winter):313-23.

33. Weeks, Silas B. 1970. Involving citizens in making public policy. Journal of Extension 8(Winter):40-45.

34. Wilson, James Q. 1963. Planning and politics: Citizen participation in urban renewal. Journal of the American Institute of Planners 29 (July):242-49.

35. Wireman, Peggy. 1970. Community development and citizen participation: Friend or foe? Journal of the Community Development Society 1(Fall): 54-62.

36. Zurcher, Louis A., Jr. 1970. The poverty board: Some consequences of "Maximum Feasible Participation," Journal of Social Issues 26 (Summer):85-107.

## CHAPTER FOUR

# A Strategy for Establishing Planning Priorities

IVAN HANSON

EVERY PLANNING organization has the problem of establishing priorities--what to plan first. A health planning organization, for example, may be faced with the problem of plunging into facilities planning, which would seem to be dictated by immediate pressures and short-run needs, or to go for a health education and environmental health program, which may be a very long-run improvement in health status. Area wide planners, more broadly, must decide whether to place education above health, highways, or other programs in the priority ranking. Thus, the dilemma of setting priorities includes the dimensions of time and content plus the pressures of interest groups, money, and legislated requirements, to name just a few.

Clearly, this is a problem area where there is no uniformly accepted strategy. A growing literature and professional movement dedicated to learning about processes for establishing priorities as a part of a broader decision-making process is not widely available to practicing planners. Since there is a need for disseminating existing knowledge and exploring its application, this chapter discusses some techniques for establishing planning priorities in the following manner:

1. Several commonly used current methods are reviewed and discussed;
2. The nominal group process as a group decision-making technique is

explained; and

3. The results of using the nominal group process at the Lincoln Workshop are reported.

This chapter, more accurately, deals more with techniques for establishing planning priorities with strategies. In the author's mind set, a technique concerns tactics or methods for accomplishing things, while strategies deal with rankings of alternative sets of outcomes. The nominal group process is a tactic for establishing priorities for work programs in a planning organization that reflect the participants' perceptions of problems that need to be solved. It is approached from the standpoint of ranking needs rather than ranking potential results from actions taken.

## METHODS FOR ESTABLISHING PRIORITIES

Many planning instructors teach a variation of the scientific method, which is fundamental to the planning process, as the basis for establishing priorities among problems. In practice there are many variants, depending on the types of problems being handled, background of the planning staff, available money, pressures from interest groups, and other similar factors. Direct observation through research, teaching, and consulting with several kinds of planning units from the federal level down through the local planning board has resulted in the following classification of techniques for establishing priorities. The classification is neither exhaustive nor based on other than experience and casual observation.

## Community Attitude Surveys

Academicians favor the use of scientifically designed surveys to reliably identify community opinions on a set of issues. Fundamentally a research endeavor, this requires the drawing of a sample, design, and administration of an instrument and an analysis of data. Public opinion polling for political campaigns is a popular example of surveys that report community attitudes on issues which subsequently become emphasized, accordingly, in the political rhetoric.

Properly done, attitude surveys can be a good barometer of community desires and opinions. Sometimes the results can be surprising in their identification of residents' perceived needs, particularly if there are repressed needs within the community. The attitude survey can be an outlet for expression when no other exists.

This technique has several disadvantages, however. First, it is very costly in terms of time, money, and manpower. Drawing a sample, creating a survey instrument, testing the instrument, selecting and training interviewers, and editing, coding, tabulating, and analyzing the data requires months for researching just a few issues. Attempts to hold down monetary and manpower costs by using volunteers then leads to problems of bias due to interviewer error. Consequently, the attitude survey is often beyond the reasonable alternatives of a small planning agency.

A second disadvantage is that the attitude survey is a one-time thing. Attitudes are known as of a given date, but there is no way of knowing if those attitudes prevail over time, since an intervening event may have altered attitudes, and the only way of updating the survey is to run a follow-up. Consequently, attitude surveys are not a desirable alternative for monitoring progress over time.

Third, the attitude survey technique assumes the researcher knows which questions to ask. It is possible that the instrument used could eliminate issues quite important to the community but unknown to the researcher who constructs the instrument.

A final disadvantage deals with the community distrust of such endeavors. At a recent short course for health planners held at the University of Oklahoma, planners from two diverse parts of the United States discussed their experiences with attitude surveys during a group discussion conducted by the author. One planner from a medium-sized Oregon city reported that the community citizens responded very derisively to the comments and interpretations of the attitude survey by participating academicians. Another planner from rural Arkansas reported that the frequently surveyed, poverty-level respondents, particularly, had become quite adept at manipulating the survey through the kind of responses they gave. Attitude researchers are quite aware of this problem, and it may serve to retard the use of the technique in many instances.

## Rationalist Approach

Persons with a highly academic orientation may prefer the rationalist approach, which implies that priorities can be logically determined through research techniques. For example, economists may assign high priority to sectors with large employment multipliers or may rank order programs as a result of benefit-cost analyses.

The advantage is that the sequencing may be fundamentally sound from a logical point of view. The resulting priorities are likely to be very attractive to program administrators in funding agencies, because the arguments made are based on very solid research foundations.

This approach has two distinct disadvantages. Most importantly, few individual planning units have the financial capability to fund an extensive research program that would rank priorities; furthermore, it would take a very long time to get complete answers.

Equally important, the resulting priorities of the professional researchers and planners may not be consistent with the wishes of the community. While adroit politicians may be able to successfully bridge this gap, it could nevertheless be a significant problem in uniting a community behind a program of work.

## Money Availability

During the recent Golden Decade of the 60s, when new programs were created and funded faster than they could be implemented and managed, the availability of funds seemed to be the principal criterion for establishing local priorities. Programs which were the biggest or the quickest seemed to be most prominent on the list of activities and hence became priority items. Part of this was due to the urgency and efficiency with which federal agencies managed their grant programs, and part was due to the capabilities of planning staffs in securing grants. Some staff members had the training, experience, or contacts in certain fields which made that field much more emphasized in the local communities.

Immediacy is the principal advantage of this system. Money comes in, things get done, progress is noted, which is important in solidifying community support for planning and development. Action programs in this category also frequently have externally set deadlines for applications and for program operations which may tend to speed up local community action.

Whenever things move so swiftly and smoothly, there tend to be some problems. One is that the development sequence becomes very disjointed under the circumstances. It might happen that the community moves ahead very rapidly in some areas while ignoring others, resulting in an unbalanced growth situation. Also, the priorities may not be logically sequenced. For example, some communities took advantage of the availability of Hill-Burton funds to build hospitals only to find that the manpower planning had not kept pace and had not secured adequate medical personnel to staff them.

## Group Sessions

Community leaders (innovators, legitimizers, representatives of identifiable constituencies) are often brought together to generate ideas to be distilled into priorities for the planning agency. They may utilize a wide variety of task forces, study groups, community meetings, retreats, white papers, and consultants to generate a position on issues and eventually create a set of priorities.

The role of group process in problem solving has been the subject of research by applied psychologists and communications specialists for the past 15 years. Generally, the research results indicate that group processes are superior to individuals working alone. Brainstorming, a variant of the group interaction process, has been shown to generate more and better ideas and to result in more unique solutions [3;4].

In spite of the research-proven benefits from group interaction, some scholars have found that the interaction process tends to inhibit creative thinking in terms of originality, creativity, and practicality. A sizeable literature on this issue has been summarized by Van de Ven and Delbecq [6] in the following points:

1. "A 'focus' effect wherein interacting groups 'fall into a rut' and pursue a single train of thought for long periods.
2. The 'self-weighting' effect, wherein an individual will participate in the group to the extent that he feels equally competent with others.
3. The fact that covert judgments are made but are not expressed as overt criticisms.
4. The inevitable presence within most organizational groups of status incongruities, wherein low-status participants may be inhibited and 'go along' with opinion expressed by high-status participants even though they feel their opinions are better.
5. Group pressures for conformity and the implied threat of sanctions from the more knowledgeable members.
6. The influence of dominant personality-types upon the group.

7. The amount of time and effort spent by the group to maintain itself. As orientation to maintaining group interaction increases, quality of solutions decreases.
8. A tendency to reach 'speedy decisions' before all problem dimensions have been considered."

Although the literature indicates group processes are superior to individual thinking in decision making, there exist some weaknesses in the interaction group processes, which have the effect of weakening the technique. The nominal group process is an attempt to utilize the benefits of a group situation and to avoid the eight problems summarized above.

## NOMINAL GROUP PROCESS

A nominal group is one in which persons work in the presence of others but do not interact verbally. Some written output is obtained from each participant. The absence of extensive verbal discussion is a chief characteristic which distinguishes the nominal group from the usual interaction groups where all forms of communication take place.

While there are some possible slight variations in the way the process is guided, the basic steps are outlined as follows [5]:

1. Participants are divided into groups of five to seven and seated in a circle, preferably in the same room in which identical groups are working. This proximity provides a form of "pressure" to participate.
2. The leader establishes rapport with the group members and introduces the topic. He or she is responsible for developing and presenting to

the group a clear, concise statement of the task at hand. Since this task is to deal with the setting of priorities, it should be clearly problem-oriented, not solution-oriented. Other variations of the nominal group process can be utilized for solutions [2;1].

3. The leader can clarify the task by giving examples, preferably from outside the group's culture to avoid bias. The leader should avoid giving too many examples or overextending the clarification which would result in bias.
4. Participants are each handed a nominal activity form, a sheet of paper on which they are instructed to write as many problems as they can think of which might be considered in setting planning priorities. These should be written down in short phrases, not long explanations. Each person should work silently and independently; no talking or distracting activity should be allowed. Persons finishing early should be encouraged to think about the topic; not distract others. Time allowed for listing is 15 minutes.
5. At the end of 15 minutes, the leader begins the round robin procedure by asking each participant to list one item at a time. The leader writes each item on the flip chart, avoiding categorization, redefinition, and discussion of items. Each item is numberd sequentially. The procedure continues around the circle in the same sequence, with each participant giving one response at a time until no more responses are forthcoming. Time allowed for round robin is 30 minutes.

6. Once all items are listed, participants are given the opportunity for discussion to clarify items that are not understood. The purpose of this discussion is for clarification, not for pro and con arguments about the items. Movements to collapse or condense categories will appear, but the leader should resist them because they may distort the original meaning of the items. About 15 minutes is allotted for this discussion.
7. Each participant is then given a set of 3 x 5 index cards, frequently 10 cards per set, but greater or fewer depending on how many items are desired in the final listing of priorities. The participant is asked to write on each of the ten cards one item which he considers to be important. Then he rank orders the completed cards by placing the item he considers most important on top of his pile and writing the number 10 in the lower right corner of the card. The next most important item is placed next and the number 9 is written in the lower right corner of the card, and so forth until the least important card is marked number 1. Time allowed is 10 minutes.
8. The cards are then collected and tabulated. The resulting ranking of items is presented to the group.
9. Group discussion is then invited on this ranking of priorities. Additional clarification of some items may be requested. Time allowed is 10 minutes.
10. Each participant is then given a second set of 3 x 5 cards and asked to rerank the items. A simple ranking from most important (10) down

through least important (1) may be all that is desired. However, an additional rating technique may be introduced at this point if each person writes the number 100 on his most important priority card and some number less than 100 to his next most important and so on. This introduces a weighting concept that produces relative priorities. For example, a participant's most important item would be assigned a value of 100, but he may feel his next most important item is worth only a 20, etc. Time allowed for reranking and rating is 10 minutes.

11. The second set of cards is collected from each participant and tabulated to determine a final set of relative priorities as defined by the group.

The advantages of the nominal group process have been summarized by Delbecq as follows [2]:

1. The presence of others, the silence, and the evidence of activity creates a tension important for the individual's commitment to the search process; yet the social setting of a group is retained.
2. Evaluating or elaborating on comments is avoided while the problem dimensions are still being generated.
3. Each individual is given the time and opportunity to engage in individual reflection on the topic and is forced to record his thoughts.
4. Strong personality types can not dominate the group.
5. Premature closure of the search process and decision making is avoided.

6. All participants can share in the influencing of the outcome.
7. Minority opinions and ideas are encouraged.
8. Ideas which are conflicting and incompatible are tolerated.
9. Hidden agendas or covert political group activities are alleviated because they are difficult to carry out in writing.
10. Group members have a sense of responsibility for group success.
11. All participants must share the burden of producing an output.
12. Written expression of ideas produces a greater feeling of commitment and permanence than does spoken expression.

The writings of Delbecq and others are perhaps best known in this field because they summarize the results of in-group process research, develop the nominal group process alternative, and illustrate several applications in different research and program development settings. These writings have a weakness in that the approach to nominal group processes is one of advocacy which tends to overlook the problems in using the technique. The author and colleagues have experienced difficulties in several widely varied situations in which they were using the nominal group process technique. Some of these problems are as follows:

1. Formulating the task statement to which the group participants will address themselves is a tricky assignment. Not unlike a research hypothesis, the task statement must be specific, clearly stated, and unbiased; yet it must allow for creativity and differing points of view. Tasks which have broad objectives and are presented to participants from highly dissimilar constituencies or disciplines seem to

be much more difficult to bring into focus.

2. Groups must be kept quite small, usually less than eight. This requires more trained leaders and techniques for amalgamating the results of many groups, but it is necessary in order to make the groups effective. If the groups are too large, too much time is spent in the round robin which reduces greatly the time available for discussion in step 9 of the process. Even slightly larger groups of about a dozen will increase the round robin listing time to more than an hour. Not only does this reduce discussion time, but it causes participants to become bored and impatient with the process. It might result in hasty, ill-considered decisions during the ranking processes, although this has not been verified by research.
3. The nominal group process is structured to eliminate dominance of the group by a strong personality. The author has personal knowledge, however, of a situation in which a strong personality, high-outside-authority figure completely dominated a group. This individual very definitely wanted a certain item to rank number one on the priority list, and he accomplished this by simply repeating that item every time his turn came during the round robin. He also supplemented this with illegal pro-arguments in consistent violation of the ground rules. The result: his item was ranked at the top of the list. Because of the nature of the nominal group process, the usual techniques available to the leader for manipulating such people in small groups are reduced. The alternative is direct leader-

participant confrontations which normally disrupt and diminish the effectiveness of small groups.

4. The priorities resulting from the nominal group process only reflect the feelings of that specific group at that particular point in time. Crisis issues tend to be elevated in priority and may reflect short-term rather than long-term needs of the community. The composition of the group may also bias the results toward or away from issues.

## NOMINAL GROUP PROCESS AT THE LINCOLN WORKSHOP

The topic of strategies for establishing planning priorities was the subject of one of the discussion sessions at the Lincoln Workshop (Conference on Planning for Public Services in Rural Areas) in April 1973. Instead of approaching the session through the usual format of a prepared paper followed by group discussion, the author chose to use the nominal group process with the following objectives in view:

1. To identify problems in setting priorities for the planning process;
2. To indicate the problems which are most important so research can begin on solutions; and
3. To use the nominal group process to learn the technique while accomplishing objectives 1 and 2.

Thirteen persons elected to participate in the group. About half were academic persons engaged in some combination of teaching, extension, and research; the other half were employed by state or local organizations and were involved in development programs. Four members of the group were familiar with the nominal group process.

Following the usual introductions, the objectives listed above were explained to the group and then condensed into a task statement which encompassed objectives 1 and 2. The nominal group process proceeded in the usual manner and produced a list of 59 items, which are shown in Appendix 4.1. Participants were asked to rank order the ten items they thought were the most important problems. Following a coffee break and a short discussion period, they were again asked to rank order the top ten items. In the second ranking, they were not asked to weight their items, as is po[illegible] but merely to rank order them. The results of the two rankings are summarized in Table 4.1, which includes the rank order and numerical score for each item for both the first and second rankings.

Two aspects of the ranked results are especially interesting. First, the group did not bring any new items into the priority list following the discussion; in fact, the group narrowed the choices under consideration. On the first ranking, the top priority item scored only 39 points, while the top item on the second ranking scored 80 points. The votes were more diffused on the first ballotting, which may illustrate the strength of group interaction in selecting choices. The second interesting finding is the movement of item 10, "establishing line of communications between decision makers and their constituents" from seventh place to first place.

Table 4.1. Top ten problems in establishing planning priorities, results of nominal group process, conference on planning for public services in rural areas, Lincoln, Nebraska, April 25, 1973.

| First Ranking | | | Second Ranking | |
|---|---|---|---|---|
| Rank | Score | Item | Rank | Score |
| 1 | 39 | Appropriate scale of jurisdiction for the problem | 3 | 53 |
| 2 | 37 | Establish goals and policies | 2 | 64 |
| 3 | 35 | Lack of commitment to deal with priorities | 5 | 48 |
| 4 | 33 | How, for each strata of the community, you establish goals, weights, variables, benefits and costs | 6 | 44 |
| 5 | 31 | Lack of data on community needs | 4 | 49 |
| 6 | 29 | Overcoming vested interests in priority setting process | 7 | 39 |
| 7 | 27 | Establishing line of communications between decision makers and their constituents | 1 | 80 |
| 8 | 20 | Forcing citizens and decision makers to evaluate their environment | 8 | 35 |
| 9 | 20 | Bring consumers and providers together for A definition of the problem | 9 | 32 |
| 10 | 19 | Citizen participation | 10 | 27 |
| | 19 | Avoid crisis approach | 11 | 13 |

This was the result of the intervening discussion session when most of the time was devoted to clarifying the meaning and importance of this item. Individuals were strongly influenced by the group reaction.

The suitability of this ranked list for establishing research priorities is also interesting. Most of the final items are definitely interdisciplinary in nature. Although the group was more heavily weighted with professional economists than any other single profession, the final, key items are not exclusively economic in orientation or terminology, although there are strong political science and behavioral science overtones. Establishing communication links, jurisdictional boundaries, and citizen involvement and commitment seem to be important problems in the minds of both academicians and practitioners.

In retrospect, the nominal group process has both good and bad aspects for this type of situation. It did produce a list of priority items for consideration by researchers who are interested in solving the problems surrounding organizing and carrying out community development. The traditional academic process of long intellectual conversations via journal articles or conferences may be too slow in Twentieth Century America where the poor, the black, the Indians, and other organized groups want action now, not five years from now. Furthermore, this process may not come up with an intellectually inviolate set of priorities; after all, the researchers also migrate in the direction of money trees.

The major problem experienced was that the group was too large and consumed too much time in the round robin process of listing the items on flip charts. That activity took about 1 1/4 hours and led to restlessness on the part of some participants. This forced a reduction in discussion time between rankings and practically eliminated any post-activity discussion time on the relative merits of interaction and nominal group processes. The entire nominal group process took some 3 1/2 hours.

## SUMMARY

Establishing priorities through the planning process is an omnipresent problem in community development. Experience and observation has shown that while priorities may be established through community attitude surveys, extensive research, readily available money, or group interaction processes, none of these approaches is totally satisfactory. The nominal group process has been shown through research in behavioral psychology to be superior to interacting group processes.

# REFERENCES

1. Delbecq, Andre L. The nominal group as a research instrument for exploratory health studies. Mimeo. Madison: University of Wisconsin, Graduate School of Business.
2. _______, and Andrew H. Van de Ven. 1971. A group process model for problem identification and program planning. Journal of Applied Behavioral Science 7.
3. Hall, Jay. 1971. Decisions, decisions, decisions. Psychology Today. Nov., pp. 51 ff.
4. Taylor, Donald W., Paul C. Berry, and Clifford H. Block. 1958. Does group participation, when using brainstorming, facilitate or inhibit creative thinking? Administrative Science Quarterly 3:23-47.
5. Van de Ven, Andrew H., and Andre L. Delbecq. Guidelines for leaders in conducting nominal group meetings. Mimeo. Madison: University of Wisconsin, Center for Study of Program Administration.
6. _______, and Andre L. Delbecq. 1971. Nominal versus interacting group process for committee decision making effectiveness. Academy of Management Journal 14(2).

## Appendix 4.1. Group List of Problems

Listed below are the items reported during the round robin step of the nominal group process. The items appear in the order in which they were reported by participants.

1. Lack of knowledge about alternative solutions can cause problems not to be given priority.
2. Establish goals and policies.
3. Lack of data on community needs.
4. Don't know what is or could be made acceptable.
5. Overcoming vested interests in priority setting process.
6. Do you have necessary resources to solve a problem?
7. How for each strata of the community do you establish goals, weights, variables, benefits, and costs?
8. Different criteria for revocable vs. nonrevocable decisions.
9. Forcing citizens and decision makers to evaluate environment.
10. Establishing line of communications between decision makers and their constituents.
11. Realistic analysis of existing delivery system.
12. State of arts determine priorities.
13. Appropriate scale of jurisdiction for problem.
14. Inconsistent priorities among levels of government.
15. Resolution of conflict among jurisdictions on priorities.
16. Accurately assessing unanticipated consequences of actions taken.
17. Identifying systematic links between things manipulated and outcomes attained.

18. Influence of affluent has more weight than poor, minorities, etc.
19. Size of problems in relation to funds available.
20. Appropriate time dimensions.
21. Differing world views on right--wrong.
22. Change traditional methods of funding in order to change priorities.
23. Determining providers and receivers of service.
24. Future stability of population in community.
25. Lack of commitment to deal with priorities.
26. Defining criteria of provider performance, measuring, predicting.
27. Comprehensive planning vs. incrementalism.
28. What are benefits from planning.
29. Knowing factors which maintain status quo and can they be changed.
30. Getting boards, etc., committed to planning concepts to be meaningful aid in priority setting.
31. Will 1 solution solve multiple problems?
32. Determine priorities as seen by local people -- positive vs. normative imposition from above.
33. Complexity of comprehensiveness vs. attractiveness of functional planning.
34. Try to measure everything, including unmeasurable.
35. Defining criteria of receivers, measuring, predicting.
36. Avoid crisis approach.
37. Selection of methods and groups to participate in priority setting, especially involving allocation of resources.

38. Coordinating provider (capital) budgets by requiring review by multi-county agency.
39. Citizen participation.
40. Who makes final decision on priorities?
41. Having priority setting process reflect future needs of majority.
42. How many people need the service?
43. Who is the best source of information for establishing priorities in short run?
44. Lack of common vocabulary and understanding of terminology.
45. Forcing long-range perspective on community for making allocation decisions.
46. How do we educate the public?
47. Problem of #1 priority which is getting reelected.
48. Bring consumers and providers together for a definition of the problem.
49. Extent of priority flexibility.
50. Determining constituency for planning.
51. Keep politics out of planning? To what self-service extent can we?
52. Possibility priorities may not reflect equity or real need.
53. Identify providers and users in terms of performance criteria.
54. Evolution of expectations (moving target).
55. Multiplicity of governmental units.
56. Priorities may not account for inter-group, ethnic differences.
57. Concern for duplication and overlap.

58. Determine output of decision making criteria and relate to priorities.

59. Do priorities, as reestablished, reflect the need?

## CHAPTER FIVE

# Multiplicity of Local Governments: A Logical Explanation

ELINOR OSTROM

THE MULTIPLICITY of local units of government is frequently blamed for all types of urban and rural ills: inefficiency, duplication of effort, inactivity, conflict, inequities, and lack of effective power. Hundreds of reports have been drafted recommending the elimination of many units of local government through consolidation, annexation, merger, or other means. In Iowa, for example, Robert I. Wessel reviewed a series of proposals for reforming local government beginning as early as 1892. Wessel contends that:

> All these examinations and studies, though made by different people and different methods, have a number of common recommendations or suggestions. They usually call for a reduction in the number of elective offices, the consolidation of a number of functions, a clearly defined policy-making role for the boards of supervisors and the establishment of a single administrative head for the county [20].

Yet, for all the reports and recommendations, voters living in rural and urban areas consistently vote against major reform proposals to reduce the number of local units of government. In fact, the number of special districts has grown 12 percent--from 21,264 in 1967 to 23,996 in 1972 [18].

Is there any explanation of which theory can provide for the long-run tendency of citizens to create more units of local government, as is so frequently recommended, rather than to reduce them? Such an explanation appears essential if social scientists are to have any credence in recommending changes in the on-going system of local governments. Chastising the world for not meeting some ideal vision of the "orderly" organization of local government does not appear to have been a successful strategy. Until we understand the logic of the situation in which citizens find themselves, we cannot understand why citizens persist in organizing new units. Without such an understanding, our recommended reforms may not even begin to approach the problems of local government as viewed by the citizens who have to make the decisions concerning the organization of local government serving them. Without such a congruence between reform proposals and the citizen's perception of problems, reform suggestions may either be rejected by citizens or, if approved, make things worse.[1]

## A LOGIC OF CONSTITUTIONAL DECISION MAKING

For some time now a literature has been growing at the fringes of political science and economics which provides the beginnings of a new logic of collective action.[2] From these theoretical foundations, one can begin to develop a relatively conherent explanation of the tendency to create new units of local government and to resist efforts to consolidate old units. The explanation is based upon a logic of constitutional behavior at the local level. Constitutional decision making, viewed as the establishment or change of a set of basic rules by which officials will exercise future public decision-making responsibilities, is not the rare event we sometimes describe in our texts and introductory courses. Constitutional decision making is a relatively continuous process. When individuals in local communities face problems of a nature that they feel existing institutional arrangements are not solving, they frequently initiate a process of constitutional decision making. Individuals in such circumstances attempt to devise new institutional facilities by establishing (1) voluntary collective associations, (2) new governmental entities, (3) communication and bargaining among already existing public exterprises which jointly have sufficient powers and appropriate boundaries to deal with their problems, or (4) some combination of the above.

During the first part of this discussion on the logic of constitutional choice, illustrations related to the management of a ground water basin will be used. The problem of ground water basin management is particularly useful as an illustration since it is a classic example of a common-pool resource--the actions of any producer affect all other producers utilizing the basin. Secondly, the issues are relatively clear-cut. Problems of ground water basin management are not, in the main, affected by party policies, race relations, and other issues of the day. Consequently, one can concentrate in the analysis on a limited range of variables which is essential when attempting to elucidate an explanatory theory. The type of analysis explored here could also be applied to many other problems of rural or urban areas including flood control, drainage, housing sanitation, recreation, fire protection, and transportation. The presence of multiple problems will be discussed in a later section.

## Basic Assumptions

In turning to the development of a logic of constitutional choice, let us first assume the existence of a basic constitutional order which assigns certain rights, duties, privileges, and responsibilities through and among different governmental structures. In other words the feasibility of law and order has already been established through relatively predictable decision-making arrangements. Secondly, let us assume for the first part of this analysis that a number of self-interested, rational, and maximizing individuals settle on the land over a ground water basin.[3] Third, let us assume that sufficient information is available concerning the state of the environment and the state of individuals' preference to characterize the decision-making situation as involving risk rather than uncertainty. Fourth, let us assume that information is costly.

## Potential Benefits from Collective Action

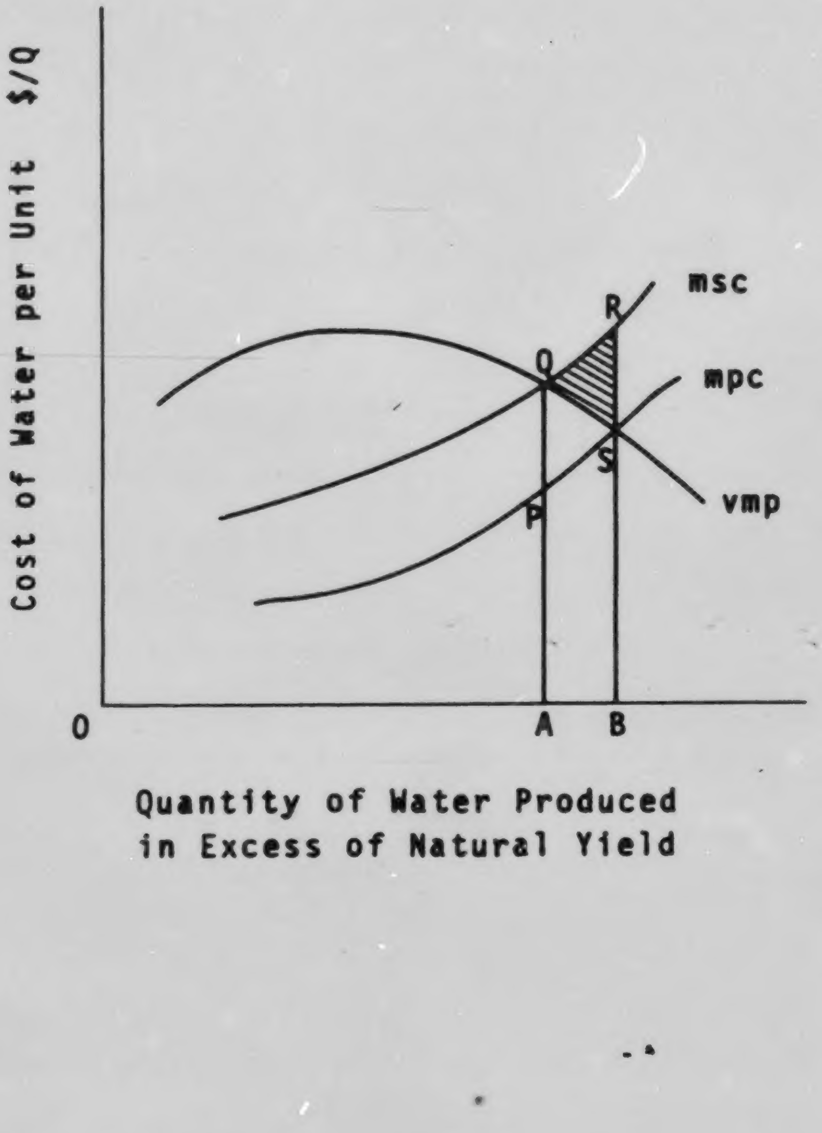
### Decreasing social costs of individual action

If the aggregate demand for water of the individuals who settle in an area underlain by a ground water basin does not exceed the aggregate natural supply to the basin, the residents acting in their individual capacities can easily manage the use of this resource. Nor are there any significant difficulties when one firm utilizes such a resource. Problems do occur, however, when a large number of individuals begin to withdraw in total more water from the basin than is replaced through natural replenishment.[4] As the total amount of water demanded by all producers exceeds the total yield of a basin, water levels begin to fall. The costs of producing ground water increases. If ground water levels decline too far, the basin may be endangered through compaction or intrusion of salt water for those basins which adjoin the sea. The destruction of even a small ground water basin may involve a large potential loss, since the costs of constructing surface distribution and storage facilities to replace a ground water basin may be very high.

Once a total withdrawl of ground water exceeds natural yield, individual calculations may lead to an increase in the amount of overdraft rather than to a reduction. Separate individuals do not take into account the possibility of extensive joint loss in their individual calculations. As shown in Figure 5.1, marginal private costs (mpc) of producing ground water for a representative pumper rise as the quantity of water withdrawn increases and ground water levels are lowered.[5] While marginal private costs rise as production increases, marginal social costs (msc) rise even faster as the production by one pumper lowers the water levels in all neighboring wells. However, the individual producer does not take marginal social costs into account when deciding how much water to produce. The maximizing producer continues to withdraw water until his marginal private costs are equal to the value of the marginal product (vmp) to be produced from this water. The maximizing producer, taking his own costs into account, would be led to produce a quantity of water equal to OB, where his marginal private costs are equal to the value of the marginal product. However, these private calculations lead to net loss for the community of water producers utilizing the same basin.

The community of water producers would be better off if the individual water producer would extract OA quantity of water. At OA level of production, the individual profit-maximizing producer could meet his own costs of production as well as compensate his neighbors for the costs they bear as a result of his pumping. At OA level of production, the individual producer could compensate his neighbors up to the equivalent of full social costs and still break even. The marginal compensation that would be required to equal the marginal social costs of any level of production would be equivalent to a vertical line segment between msc and mpc. At a level of production equivalent to OA, the individual maximizing producer could pay marginal compensation to his neighbors of QP. At this level of production, the individual producer could cover his own costs and those he created for others for the marginal unit. However, at any production level to the right of OA, it would no longer be consistent with individual profit maximizing to

Figure 5.1 Costs of water production for a representative ground water producer in an overdrawn ground water basin.



pay full compensation. The amount of compensation consistent with individual profit maximization steadily decreases at each increment of production until it reaches OB, where the individual producer would no longer pay any marginal compensation at all. Even if the producer has compensated his neighbors to the equivalent of his break-even point, as he has increased production from OA to OB, a total social loss equivalent to the shaded triangular area QRS still remains at OB. Any level of production less than OB would reduce social costs resulting from the individual producer's action.

Changing the structure of incentives and deterrents so that the individual producer is led to produce at OA and to provide a marginal compensation to his neighbors equivalent to QP requires political action of some sort. Constituting a new enterprise with authority to tax an individual for the difference between his marginal private costs and his marginal social costs would increase joint welfare by decreasing the social costs of individual actions.[6] The total net decrease in the social costs of individual actions that could be derived from constituting such an enterprise is equivalent to the shaded triangle QRS. The prevention of this total net social cost can be conceptualized as a total net benefit achievable through collective action.

## Enlarging social benefits of individual action

Other opportunities to increase joint welfare also may exist. One opportunity may be to increase the natural yield of a ground water basin by artificial replenishment. Where the surface of the basin is permeable, spreading water in shallow basins allows water to percolate slowly into storage for future use. Where the surface of the basin is impermeable, injection wells may be used to force water down into the basin to increase the underground supply. Replenishment activities not only increase the amount of water supply available to all pumpers but may also prevent destruction of a basin through compaction or salt water intrusion.

Replenishment activities are expensive. If the private benefit to a single producer is not equal to or greater than the cost of replenishment, a private producer will not invest in such activities. This is the case shown in Figure 5.2, where the marginal private benefit (mpb) to Producer A is less than the marginal cost of artificial replenishment activities. However, even though the marginal cost of artificial replenishment may exceed the marginal benefit to one producer, marginal cost may not exceed the marginal social benefit (msb) to a community of water producers. As shown in Figure 5.2, a considerable potential social benefit may be derived from replenishment activities.

Even if an individual producer, such as Producer B in Figure 5.3, would receive private net benefits from replenishment activity, he would rarely undertake as large an expenditure in these activities as would create full social benefits. Producer B would be led to produce OA quantity of artificial basin replenishment activities. At OA the

Figure 5.2 Benefits from replenishment

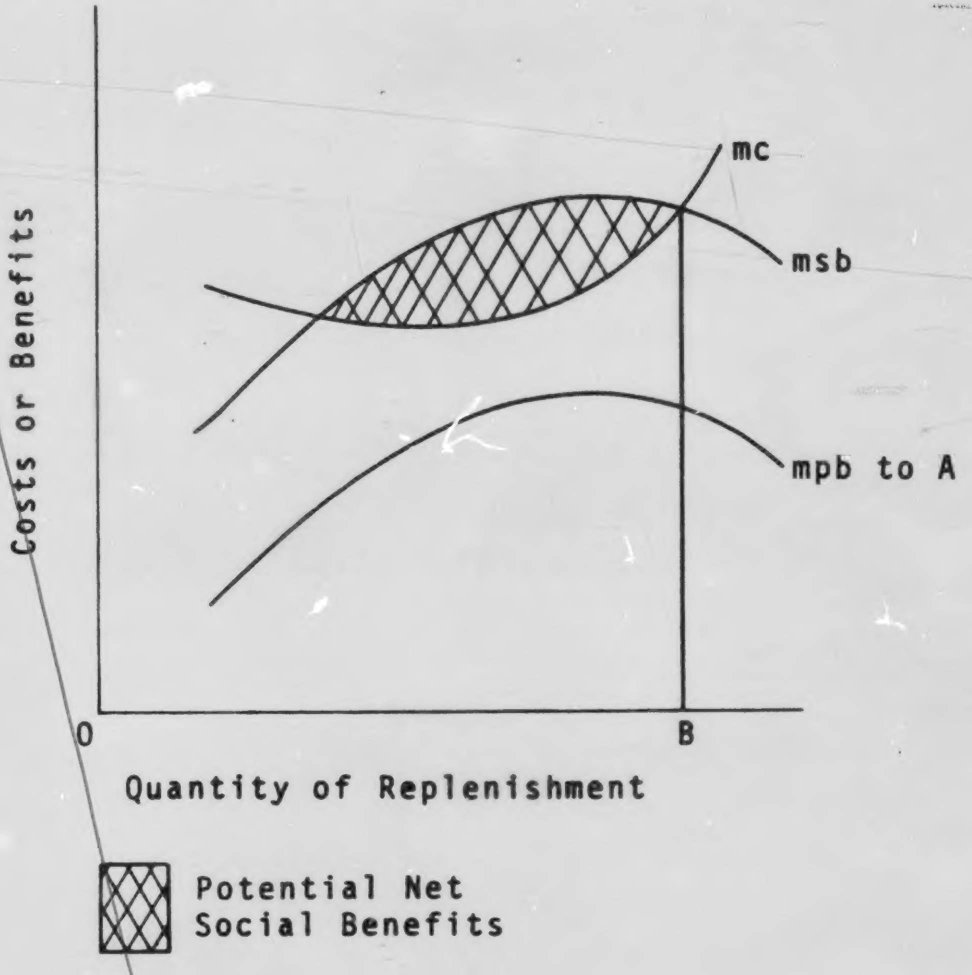
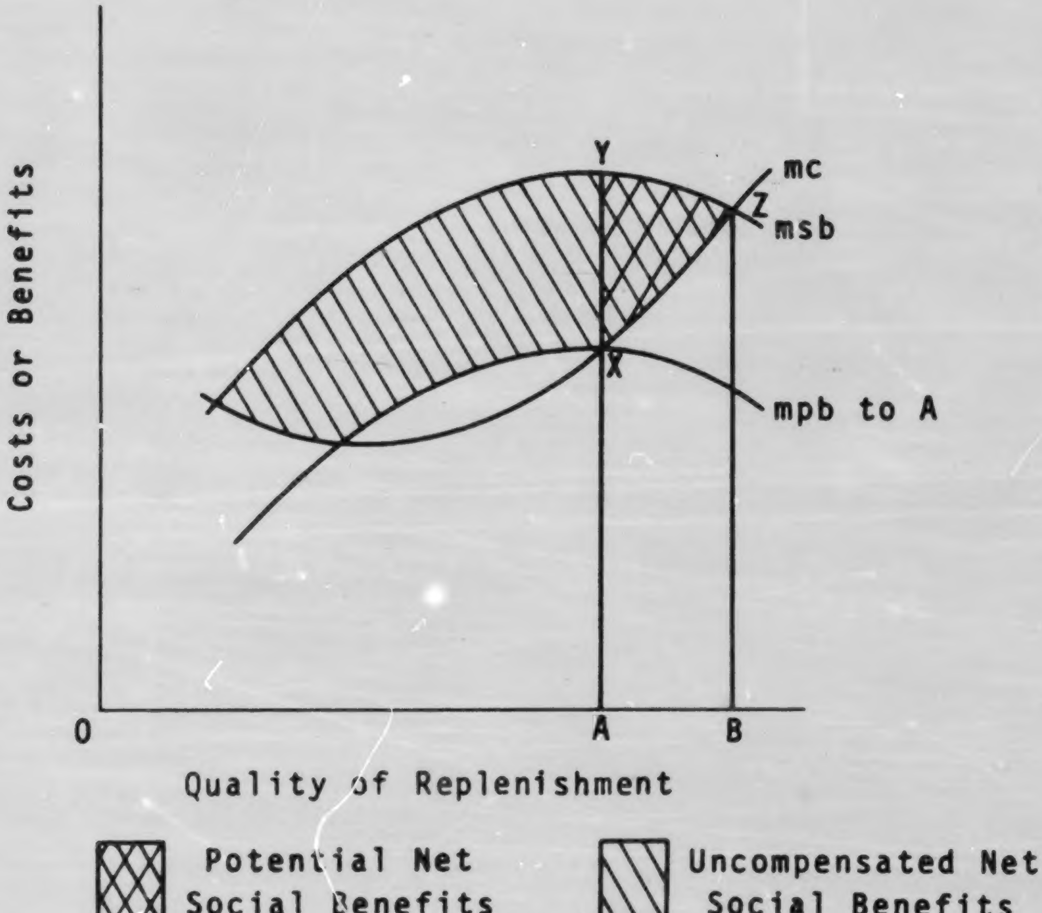


Figure 5.3 Benefits from replenishment


Costs or Benefits
Y
mc
Z
msb
X
mpb to A
0
A
B
Quality of Replenishment
Potential Net Social Benefits
Uncompensated Net Social Benefits

marginal cost of replenishment would equal the marginal private benefit that Producer B could derive from these activities. Producer B would also produce a significant social benefit as a result of his private activities for which he would not receive compensation. Water levels in neighboring wells would rise. The basin might be protected against serious damage from salt water instrusion or compaction. However, still further increases in the total welfare of the community of water producers could be obtained. The community of water producers would continue to receive more benefits than costs up to OB quantity of replenishment. At OB the marginal costs of replenishment would equal the marginal social benefit derived from this activity. However, the community of water producers will not be led to produce OB quantity of water replenishment activities without the establishment of some form of joint enterprise.

## The Opportunity for Collective Action

The problem of managing a ground water basin thus presents us with a classic case of an opportunity for some form of collective action. By constituting either a voluntary or public collective enterprise, or both, individuals may be able to *avoid* the social costs of some individual actions as well as being able to *gain* the positive benefits of some joint opportunities. Water producers utilizing a common ground water basin have a group interest in achieving some form of collective management.

However, the presence of a group interest does not guarantee that individuals will automatically organize collective action.[7]

The process of devising new institutional arrangements resembles the process of a limited constitutional convention, even though all affected individuals may not meet together in a general session. The significant difference between constitutional decision-making processes as compared to other forms of political decision making is the focus on the establishment of authoritative rules by which individuals will make future decisions.[8] Individuals are involved in a constitutional process whenever they are concerned with the following questions:

Who should he enabled to take action?

What action should be allowed or not allowed?

What decision rules should be invoked prior to action?

Those affected may meet together over time in various ways to discuss future benefits and costs that may result from the creation of new public decision-making systems. Water producers, representatives of existing public agencies, and tax-paying citizens may all take an active part in devising a constitution for a new public decision-making arrangement. The forum for these constitutional decisions may be the executive committee of a private association, an ad hoc committee of citizens, the board of directors of an existing public jurisdiction, a municipal city council, meetings of mayors and managers of existing public districts, open citizens' meetings, and (or) any combination of the above.[9]

## Potential Costs of Collective Action

Potential benefits derivable from constituting a ground water basin management enterprise include: (1) the returns from joint expenditure in replenishment activities, and (2) the reduction of social costs associated with a curtailment of ground water production. However, the establishment of a new institutional arrangement is not a costless process. The costs of collective decision making must be taken into account when contemplating collective action. For purposes of analysis, the cost of collective decision making can be considered to have two components: potential deprivation costs and potential time, money, and effort costs.[10]

### Potential deprivation costs

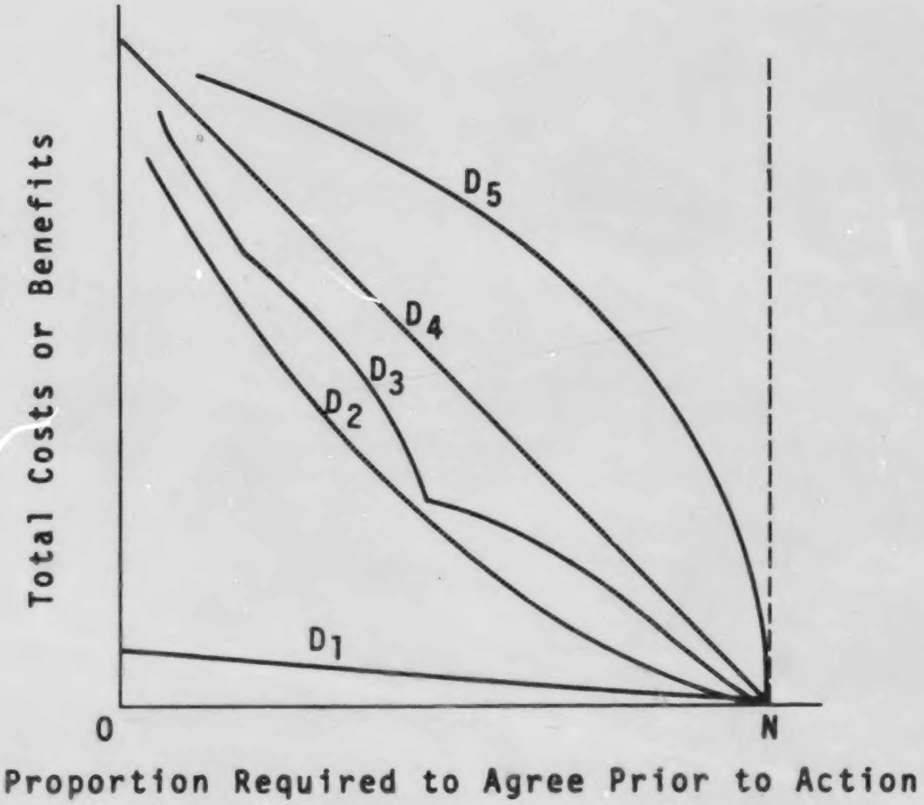
Whenever the authority for making decisions about joint activities is moved into the public sector, someone may be forced to abide by a decision to which he did not agree. In the private sector a person may leave an association which has taken a decision he opposed at relatively low cost. Leaving a private firm can frequently be accomplished without a specific geographic move. While individuals may be able to move in and out of local public jurisdictions with some measure of freedom, leaving a public jurisdiction may cost more than resigning from a firm or voluntary association. For a ground water producer, leaving a public basin management enterprise probably would mean giving up his business and moving elsewhere. As long as leaving a public jurisdiction is potentially more costly than leaving a private firm or association, the creation of such a jurisdiction means that someone may be deprived of some value whenever a collective public decision is made. Deprivations may be relatively low; the enterprise may adopt a policy only slightly at variance with the preferred policy of those who did not agree. However, deprivations may at times be relatively great. Severe sanctions may be utilized to insure conformance with a collective decision.

Actions which are deprivations for some individuals are frequently considered as benefits or income by others. The policy adopted against the wishes of some is considered beneficial by those who favored the proposal. Or it may be possible for winning coalitions of those included within a jurisdiction to devise a taxing formula that imposes more than a proportional share on a losing coalition. A policy decision imposed on all ground water producers by a management enterprise to limit ground water production, for example, would be considered a benefit by those who voted for the measure and a deprivation by those who voted against it. Ground water producers may be able to form a coalition and impose a land tax on residents, thus shifting the major financial burden of collective action from water producer to residents. The creation of a public jurisdiction enables a group to capture joint benefits, but winning coalitions may also be able to gain additional benefits through deprivations imposed on losing coalitions.

At the time of constituting a new enterprise, individuals cannot know or predict specific future decisions to be made. Assuming that no "elite" exists to form a relatively permanent winning coalition, individuals know only that there will be differences of opinion about future policies. Sometimes they will be on a winning side and other times they will be on a losing side. However, individuals can predict the effect of different voting rules on the amount of future deprivations that winning coalitions will be able to impose. When a small proportion of the total affected group of individuals is authorized to take actions for the entire group, the probability of deprivations is greater than when a larger proportion of the affected group must agree prior to action. As the proportion of individuals who have to agree prior to action is enlarged, total expected deprivations may be reduced. Total deprivation costs tend to decline the higher the proportion of individuals from a given group that must agree prior to taking an authoritative step. If all must agree before actions can be taken, potential deprivation costs would be zero. No one would agree to a decision if he felt that he would be deprived as a result of it. Consequently, deprivation cost curves are usually downward sloping to the right and cross the horizontal axis at the decision rule equivalent to unanimous consent [2, pp. 72-80].

Within this general pattern, specific deprivation cost curves may vary considerably, as illustrated by Figure 5.4. In these and the remaining figures, the vertical axis measures aggregate costs accruing to group members resulting from collective action. The horizontal axis represents the proportion of individuals required to agree to a decision before action can be taken. Even though the illustrated deprivation cost curves vary considerably from each other, all of them have a general

Figure 5.4 Potential deprivation costs



tendency to be downward sloping to the right and all cross the horizontal axis at N which is equivalent to the rule of unanimity.

The shape and level of the deprivation cost curve for individuals contemplating the establishment of a ground water basin management enterprise would depend upon (1) the constitutional ground rules of the state in which the basin was located concerning allowable activities, tax and bonding authority, and purchasing and personnel practices, and (2) the range and limits that the affected individuals themselves place on future activities of such an enterprise.

### Time, money, and effort costs

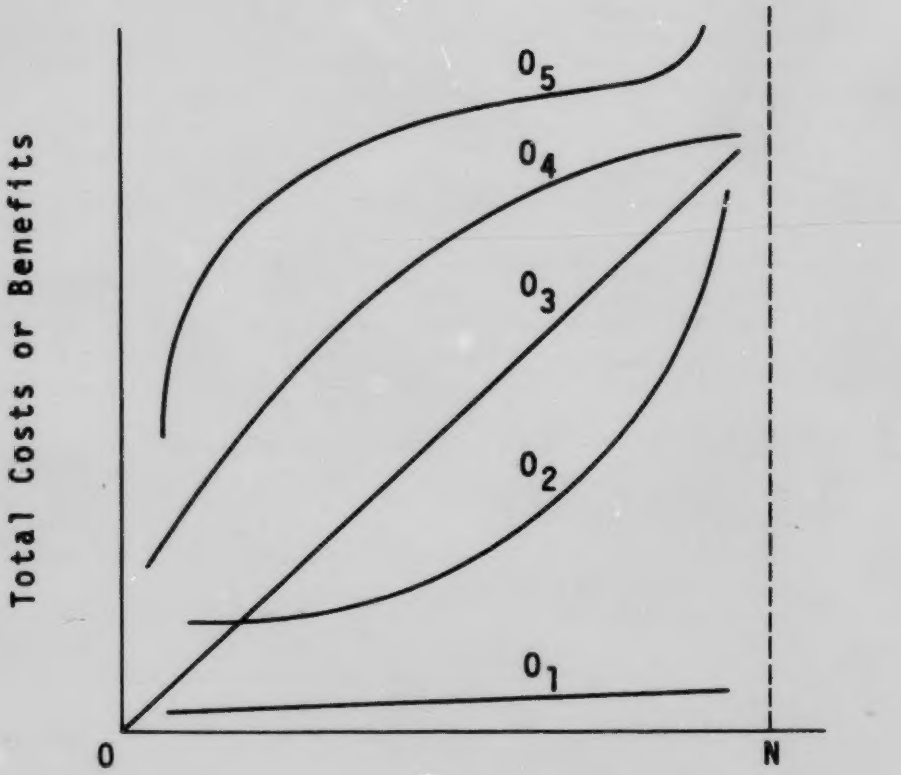
When people must agree to a decision before action can be taken, time, money, and effort are devoted to gaining agreement. These elements could be devoted to other valuable purposes or opportunities for gain, for, while people are engaged in the attempt to reach a joint decision, other uses of their time, money, and effort are precluded. If the decision-making process is a long and involved one, participants may lose many opportunities to invest in their joint benefit while they discuss what action to take.

While individuals involved in a constitutional process cannot predict how much time, money, and energy will be necessary to gain agreement on specific future policies, they can estimate the costs of gaining agreement prior to action of different voting rules. In general, the larger the proportion of individuals required to agree prior to action, the higher will be the total costs of gaining agreement. Consequently, most time, money, and effort cost curves will be positively sloped. As the decision rule becomes more inclusive, costs rise.

At the time of constituting a new enterprise, individuals have potentially more control over limiting the range of future actions than over enabling specific future actions to be accomplished. A collectivity may be able to keep future deprivation costs relatively low by carefully restricting the range of allowable joint actions and by adopting a decision rule approaching unanimity. However, by so doing, the group may face very high costs in the form of time, money, and energy required to reach some form of affirmative action and in the form of opportunities missed for collective action. Time, money, and energy cost curves can consequently take on a variety of shapes, as illustrated in Figure 5.5.

The shape and level of the opportunity cost component for individuals constituting a ground water basin management enterprise would depend upon (1) the amount and rate of overdraft, (2) the ease with which individuals could gain access to information about ground water conditions and proposed remedies, (3) the vulnerability of the ground water basin to long-run damage through compaction or salt water intrusion, and (4) the capacity of some affected individuals to function as "holdouts" if inclusive decision rules were chosen.

Figure 5.5 Potential time, money, and energy costs



## Total costs of collective decision making

Deprivation costs would be minimized if collective action could be undertaken through voluntary association utilizing the rule of unanimity. However, under voluntary association, time, money, and energy costs could be very high. These costs could be minimized by moving to public organization and empowering any one individual or a small proportion of individuals to make binding public decisions for all. However, in most instances the resulting deprivation costs would be so great that few individuals would be willing to give their consent to the utilization of such decision rules. In general neither the most inclusive nor the least inclusive decision rules are efficient for dealing with problems of collective action.

Consequently, at the time of constituting a new public enterprise, both cost functions need to be taken into account. When deprivation costs are added to opportunity costs, a total collective decision-making cost curve is formed, and it may exhibit a wide variety of shapes. Three hypothetical curves are illustrated in Figures 5.6, 5.7, and 5.8. The significant portion of the total curve is the segment immediately surrounding the low point. Where the low point of the total cost curve falls depends upon the height and shape of both deprivation and time, money, and energy costs of collective action.

Figure 5.6 Total collective decision-making costs

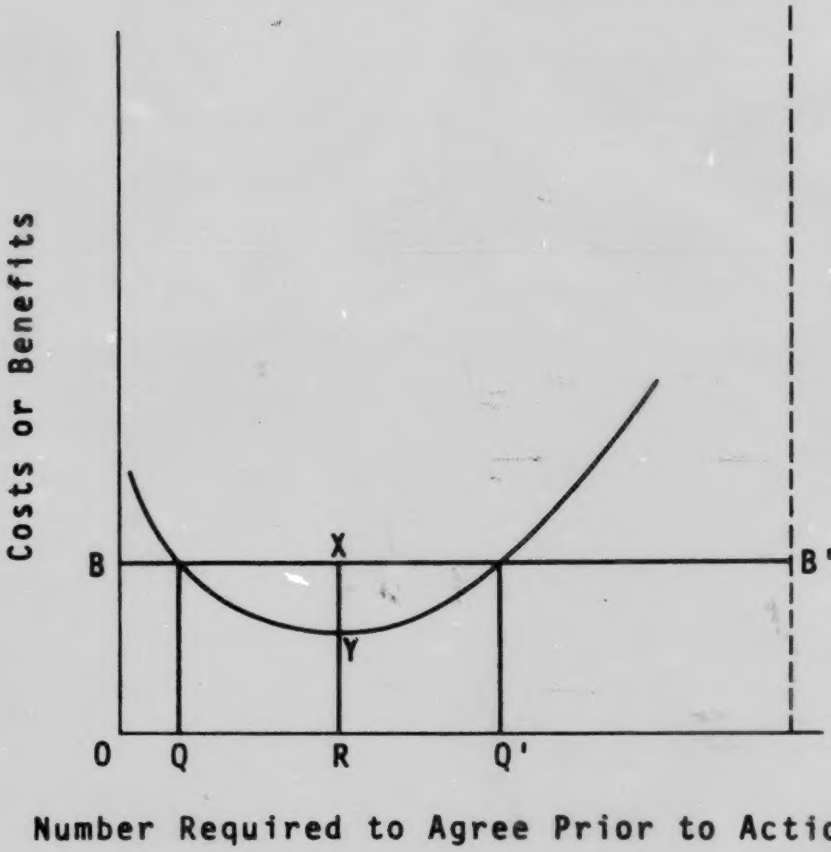


Figure 5.7 Total collective decision-making costs

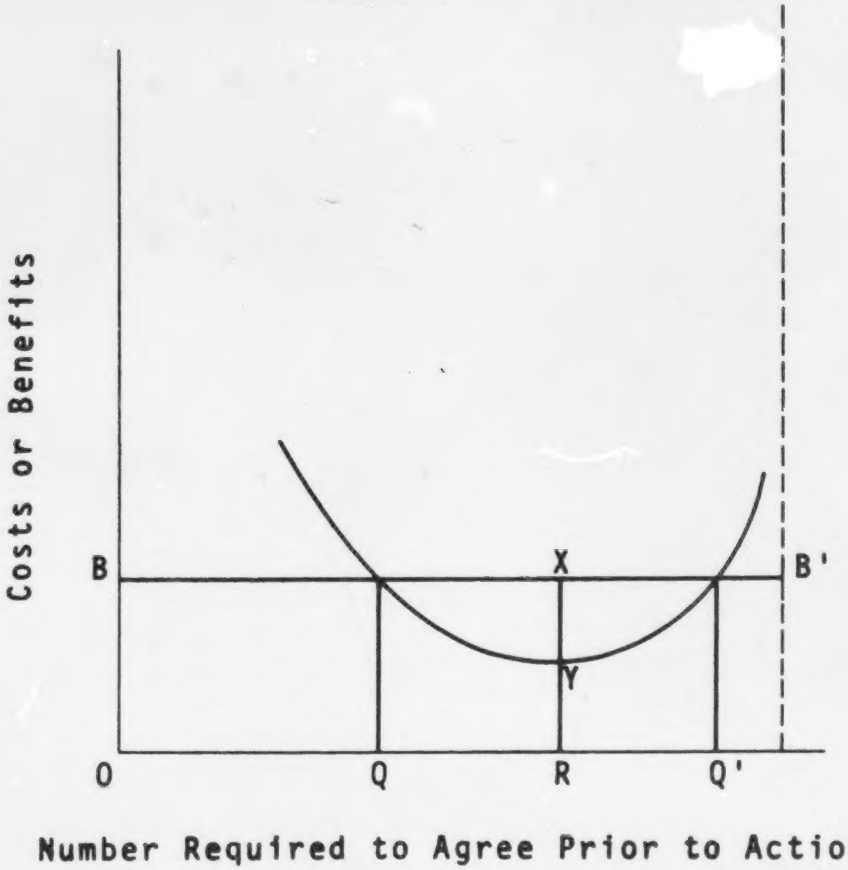
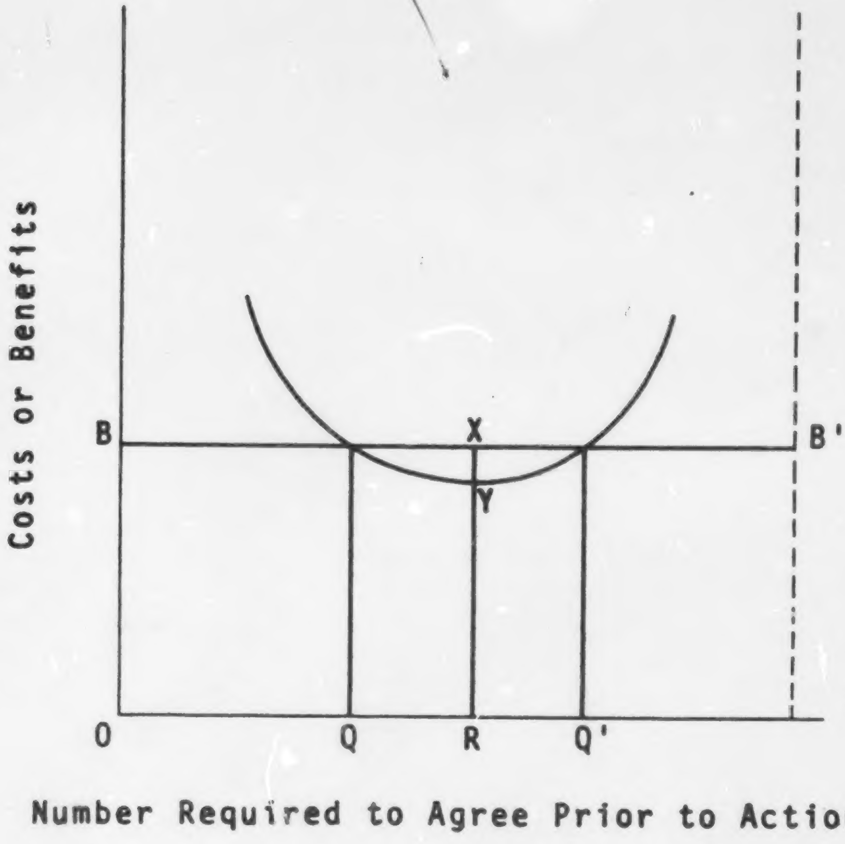


Figure 5.8 Total collective decision-making costs


Costs or Benefits
B
B'
X
Y
O
Q
R
Q'
Number Required to Agree Prior to Action

If the deprivations that can be imposed by a prospective public enterprise are limited while the time, money, and energy costs are relatively high, the low point of the total costs, curve will fall in a region requiring a relatively small number of persons to agree prior to making an authoritative decision, as is shown in Figure 5.6. On the other hand, if the deprivations that can be imposed are very high and the time, money, and energy costs are relatively low, the low point will fall in a region requiring a relatively large proportion of the affected to agree prior to making an authoritative action, such as shown in Figure 5.7. If the potential deprivations and potential time, money, and energy costs are relatively balanced, the low point will fall approximately in the middle range of potential voting rules. This is the situation illustrated in Figure 5.8.

Thus, the minimum point of a total collective decision-making cost curve can vary radically from one requiring only a few individuals to agree prior to action to one requiring close to unanimity. Majority agreement does not provide a logically unique voting rule. A majority voting rule is efficient (i.e., the lowest point on the total cost curve) when deprivation costs and time, money, and energy costs are approximately symmetrical.

### Comparison of benefits with cost of collective action

At the time of constituting a new public enterprise, total costs of collective decision making can be compared with total benefits derivable from establishing a new enterprise as well as with the benefits derivable from other strategies. The lines B-B' in Figures 5.6, 5.7, and 5.8 represent the potential net benefit which could be derived from collective action, such as the constitution of a ground water basin management enterprise. These lines represent the present value of the flow of future benefits derived from collective action, less the flow of future production costs involved in such action.

The benefit level in any particular case is derived from an analysis of social benefits and costs similar to that discussed earlier in this chapter under "Potential Benefits from Collective Action." Line B-B', for example, could be derived from diagrams similar to Figure 5.1, 5.2, or 5.3. The height of line B-B' could be equivalent in amount to the volume of the shaded triangle QRS in Figure 5.1, in which case it would represent the amount of net social costs that could be avoided through collective action. Or the height of line B-B' could be equivalent in amount to the volume of the shaded areas in Figures 5.2 or 5.3, in which case it would represent the amount of net social benefits that could be gained through collective action.

At the time of constituting a new public decision-making system, members of the affected community are interested in establishing decision rules for arriving at future management decisions that will keep future public decision-making costs less than the benefits to be derived from collective action. If a portion of the total collective decision-making cost curve lies beneath the benefit level, a net benefit can be achieved through collective action. Such a net benefit can be conceptualized as a political surplus. The amount of political surplus available from collective action depends upon the benefit level, the shape and level of the total collective decision-making cost curve, and the decision rule chosen. If the least-cost decision rule (R) is chosen in Figures 5.6, 5.7, and 5.8, then the political surplus is the line segment x-y in each case.

Affected individuals would be willing to agree to the formation of a public enterprise whenever the proposed decision rules involve less cost than the benefits to be derived through collective organzation. In Figure 5.6, 5.7, and 5.8, any decision rule which required between Q and Q' of the affected individuals to agree prior to action would result in an increase in net benefits to the community and the capturing of the political surplus. The political surplus would be maximized if the decision rules represented by the low point on the total cost curve in each case were adopted. The rule producing the maximum political surplus has been labeled R. If the optimal rule were proposed, individuals affected by the organization of an enterprise would maximize their joint net benefits through its use even though (1) they would be forced to abide by some future decision to which they did not agree and (2) they also would pay some opportunity costs.[11]

## MULTIPLE GOODS AND MULTIPLE ENTERPRISES

If the possibility of managing a ground water basin were the only problem facing a community, constitutional decision making would be a relatively simple process of calculation. Net social benefits to be gained through collective action would be compared against the costs of collective decision making utilizing different decision rules. If the costs of decision making were less than the benefits to be gained for at least some decision rule, individuals would attempt to constitute an enterprise to utilize the optimal rule for making future policy choices.

However, most communities face a wide variety of public problems and opportunities for collective action. In addition to ground water basin management, individuals may want to undertake collective action to gain a wide variety of public goods and services, including provisions for flood control, education, sanitation, transportation, and recreation facilities. If the groups affected by the provision of each of these public goods were identical, and if the shape of the total collective decision-making cost curve were similar for each of these public goods, one public enterprise could be constituted to make future policy decisions regarding all of them. However, the range of individuals affected by a sanitation facility may differ radically from the range of individuals affected by the provision of a new road or the construction of a new park, even though some individuals might be affected by all three. Even when the range of individuals affected is identical, there is a strong possibility that the costs of collective decision making for each of these public goods will vary considerably.

Thus, when we contemplate the problem of establishing public enterprises to provide multiple goods, at least two factors have to be considered in regard to the establishment of a single enterprise versus multiple enterprises. The first factor is whether the individuals affected by the provision of multiple public goods (or the reduction of public bads) are the same for all goods provided (or bads avoided). The second factor is whether the most efficient rule for making decisions regarding the provision of different goods is the same. Considering each factor to be independent of the other, one can conceptualize four logical cases as shown in Figure 5.9. Cell 1.1 represents cases where the individuals affected by the provision of multiple public goods are relatively similar and the low point of the total decision-making curve for each good is also relatively similar. When this occurs it would make sense for a community to utilize one enterprise and one decision rule to provide all goods and services meeting these criteria. Cell 1.2 represents cases where the individuals affected by the provision of multiple public goods is relatively similar but the low point of the total decision-making curve for each good is dissimilar. In this instance a community may be led to utilize one enterprise but different internal rules of decision making for determining future courses of action in regard to the different public goods involved. We might think of these two cases as being represented in the real world by the many general-purpose local governmental units which do provide several services using the same administrative machinery for all. We are familiar with

Figure 5.9

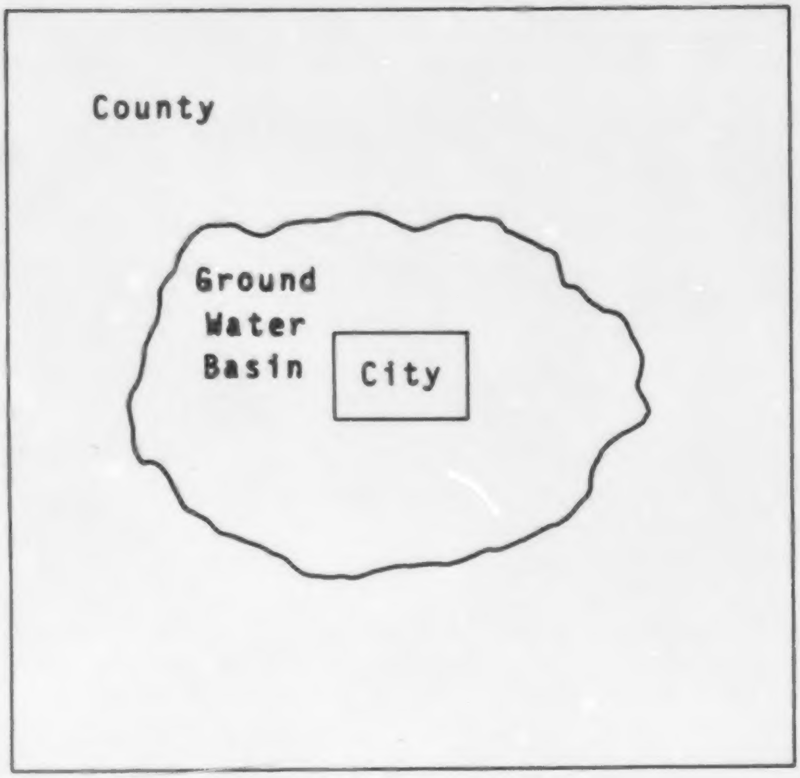
| People Affected by The Provision of Multiple Public Goods | Shape of Total Decision-Making Cost Curves for Multiple Public Goods | |
|---|---|---|
| | Low Point on Cost Curve Similar | Low Point on Cost Curve Dissimilar |
| Similar Range of People Affected | 1.1<br>Single Enterprise and Single Decision Rule | 1.2<br>Single Enterprises and Multiple Decision Rules |
| Dissimilar Range of People Affected | 2.1<br>Multiple Enterprises and Similar Decision Rules | 2.2<br>Multiple Enterprises and Multiple Decision Rules |

many instances where decision rules vary by the type of decision to be made, even though all decisions are being made for the same public.

The second row represents instances where the public goods affect different groups of people. In Cell 2.1 a solution would be due to establish different public agencies, each using the same decision rule for internal decisions. In Cell 2.2 a solution would be to create multiple agencies, each using different decision rules. In either of these cases, an attempt to utilize one public enterprise to provide multiple goods of differing impacts may substantially raise the total decision-making costs for all involved.

Let us examine a hypothetical situation in which one city is located within a single county, as shown on Figure 5.10. If all collective good problems which individuals faced in this area affected individuals living within the boundaries of either the city or the county as a whole, one might expect residents to utilize these general-purpose governments only. No special-function governmental units would exist. However, if part of the county were underlain by a ground water basin in a state of overdraft, and if the ground water basin were larger than the city and smaller than the county (as shown in Figure 5.10), then utilizing either general-purpose governmental unit would tend to increase the total decision-making cost curve for that enterprise.

Figure 5.10


County
Ground
Water
Basin
City

Why would this be? Let us first examine the difficulty of making decisions about the ground water basin by the county government which is larger than the scope of the problem to be solved. While all the voters living in the area underlain by the ground water basin could vote in county elections regarding problems of ground water basin management, other voters not affected by the basin would also be voting. These voters would not have much information about the ground water basin area and would certainly not want to pass any legislation which might require them to pay taxes to support activities related to it. If the residents of the ground water basin area were not in a majority, they would have to use log-rolling techniques to convince other residents to go along with their needed projects. They would have to promise support for legislation affecting other small areas of the county outside of the area of the ground water basin in return for support for projects related to the ground water basin area. While log-rolling techniques might enable residents of the county to put together packages of projects which were agreeable to a majority of the voters, the bargaining involved in putting such packages together and the "lumpiness" of the process would have to increase both the time, money, and effort costs and the deprivation costs. In addition, since each of the subgroups within the county proposing smaller-scale projects will receive the full benefits from each project without having to pay the full costs, each group will be motivated to propose any project where the marginal benefit to them exceeds their own marginal cost regardless of whether marginal benefits exceed the full marginal cost to all residents of the county. Log-rolling may consequently lead to an overinvestment in the provision of public goods.

If residents of the ground water basin went, instead, to the city government to try to regulate their basin, they would be dealing with a governmental entity which is smaller than the scope of the problem to be solved. In this case, city residents of the ground water basin area would be the only ones paying for a management program. Those living outside the city boundaries would benefit from such a program without having to pay. This would substantially alter the deprivation costs of those living inside the city. If the number of non-paying beneficiaries were large, residents of the city would be unwilling to invest very many resources in such a management program. Utilizing a governmental unit which is too small may result in an underinvestment in the provision of collective goods.

Reliance on governmental units which are mismatched to the problems to be solved can result in increased decision-making costs and misallocation in the provision of public goods [16]. If the time required for citizens to invest in information regarding the management of public enterprises had zero value, then a public enterprise for each public good affecting different individuals might be justified. Obviously, this is not the case. The capacity of citizens to control a large number of governmental units is limited.

The problem of a multiplicity of governmental units can be seen as a problem of trade-off between having too few governmental units, with the consequence of having total decision-making costs higher and a misallocation of public goods, or having too many governmental units, with citizens losing control due to the high cost of information. Recognizing the nature of the trade-offs is an essential step for social scientists when they turn to recommending reforms in the organization of local governmental units. From this analysis it is at least understandable why citizens may resist the consolidation of all local units into one large, general-purpose governmental unit for an area. Such a unit can be predicted to be too small for some purposes and too large for others.

The logic of constitutional behavior developed above begins to offer an explanation for the decisions individuals make in the organization of different public enterprises at the local level. If this explanation is valid, one would expect to find a wide variety of organizational forms being employed in practice to solve different public problems. This is, of course, what we do find when we observe the ongoing political process.[12] However, the explanation most frequently offered for this repeatedly noted pattern of governmental organization at the local level differs substantially from the one developed above. Many scholars have assumed that the current pattern of local government results from "the ad hoc development of governmental units with little rational control . . . ."[13] Random events rather than rational events are frequently cited as causative factors. Those who have argued that the pattern of overlapping jurisdictions is caused by random events have also argued that this pattern should be eliminated. Our reform literature is filled with allusions to the need for a "one community-one government" solution to local governmental problems.

Because we can begin to offer a logical explanation for a phenomenon does not mean that we have to approve of the phenomenon itself or aspects of it. An explanation for the multiplicity of governmental units does not mean that one approves of all multiplicity. Obviously, the world is not perfect. Reform of local government should itself be an on-going process. However, when reforms are proposed which do not take into account the logic of the situation to which the reform is applied, little change can be accomplished. As we develop this logic further, the next important step to be taken is to develop carefully our theory of public goods so that the problem of organizing units of local government to provide different kinds of public goods and services can be elucidated. The provision of water, flood control, sewerage, soil conservation, drainage, irrigation, and water conservation are all types of goods which are subject to substantial degrees of natural constraint (where physical boundary conditions are highly relevant, apart from constraints arising from social patterns). Of the 23,886 special districts in the United States in 1972, 10,514 or 44 percent were devoted to soil conservation, drainage, irrigation, water conservation, flood control, other resource purposes, urban water supply, and sewerage.

Such data as the number of districts devoted to particular purposes does not by itself give one much evidence as to whether some of these districts should be consolidated or whether some of them are too large and should divide. However, to the extent that these district boundaries are related to natural boundaries, reducing their number could increase the costs of providing resource-related public goods and services. What is important for social scientists to begin to consider are the effects of trying to provide diverse types of public goods and services utilizing diverse types of institutional arrangements. Natural resource problems may not easily be solved by political jurisdictions established to provide social services and police and fire protection. Instead of complaining about the sheer number of units, let us develop our theory still further and undertake empirical studies which examine specific hypotheses underlying reform proposals.[14] Is it not a dangerous course of action for social scientists to recommend to their fellow citizens drastic reforms in their government without having undertaken the necessary hard-nosed research efforts to insure that the reforms, if adopted, will not do more harm than good?

## FOOTNOTES

1. For an in-depth analysis of the predominant paradigm of reform, see V. Ostrom [13] and E. Ostrom [9].
2. A short list of the "classics" in this literature would at least include Buchanan and Tullock [2]; Downs [4]; Olson [8]; Baumol [1]; Dahl and Lindblom [3]; and Riker [17].
3. By rational the author means that the individual is able to rank all alternatives placed before him. Either A is more valued than B, or B is more valued than A, or the individual is indifferent as between A and B. Secondly, this ordering is transitive. If A is preferred to B, and B is preferred to C, then A is preferred to C. An individual is considered to have adopted a maximizing strategy when he consistently chooses the alternative which has the highest net value for him.
4. By large number the author means at least larger than a group that can sustain face-to-face relations. See Olson [8, pp. 19-36].
5. This figure is similar to one presented by Hirshleifer, DeHaven, and Melliman [6, p. 65].
6. The tax would, of course, have to be a variable tax depending upon the amount of water pumped. This is one of three different types of "solutions" proposed for common pool problems. The other two solutions are the imposition of a central decision and the imposition of a quota system. Weschler [19] and Ostrom [10].

7. See Olson [8] for an analysis of why groups do not automatically form when individuals share common interests. See Baumol [1] for an analysis of why rational individuals will resort to limited coercive means to gain common interests.

8. Madison stressed the difference between constitutional decisions which might not be altered by a later government by a simple government action, and other forms of political decisions which were alterable by the government of the day. See Madison [7, p. 348] and Ostrom [14].

9. In the West Basin area of Southern California, water producers and others began meeting in 1944 to discuss different ways and means of establishing new institutional arrangements to solve their problems. In 1945 they formed the West Basin Water Association, a voluntary private association composed of most of the water producers in the area and others potentially affected by collective action. In 1947 they constituted the West Basin Municipal Water District to bring supplemental water to the area. In 1954 a funding zone within the Los Angeles County Flood Control District was constituted to provide revenue for capital investments in replenishment.

They began the process of drafting organic legislation to be submitted to the California state legislature. The drafting committee was composed of the president of the West Basin Water Association, a member of the Executive Committee of the West Basin Water Association, an attorney from the Los Angeles City Department of Water and Power, an engineer from the Metropolitan Water District, an engineer from the Orange County Water District, a representative from the Water and Power Committee of the Los Angeles Chamber of Commerce, a representative from the California Farm Bureau Federation, a representative from the California Farm Bureau Federation, a representative from the Irrigation Districts Association of California, a water law attorney from Riverside County, a representative from the California Mutual Water Company Association, a representative from the Agricultural Council of California, and a representative from the United Water Conservation Districts. This "Committee of Twelve" represented all potential veto points over any future constitutional proposals. As a result of the unanimity achieved within this committee, the organic legislation submitted by the committee was approved by the state legislature without any significant changes.

In 1955, after extensive meetings among public officials from the State Department of Water Resources, the Los Angeles County Flood Control District, the Metropolitan Water District, the cities of Los Angeles and Long Beach, and a number of private water companies held by the Executive Committee of the West Basin Water Association, a new replenishment district was formed. Beginning in 1945, affected water producers in West Basin explored diverse ways of achieving a court-sanctioned production cutback which was finally established through a stipulated judgement in 1961.

It took approximately 17 years to constitute a mixed-enterprise management system. During this constitutional period, the forum for a large portion of the constitutional debate was the West Basin Water Association or specially constituted ad hoc committees of affected individuals. The effective decision rule followed in most of the constitutional process was unanimity.

10. This discussion of the potential cost of collective actions draws heavily on Buchanan and Tullock [2]. Because the author felt that the term "external costs" should be reserved for negative externalities resulting from interactions among enterprises rather than within enterprises, that cost curve has been renamed "potential deprivations." Secondly, the term "time, money, and effort costs" replaces their term "decision-making costs" in order to provide a more descriptive name and in order to reserve "decision-making costs" for the total curve. See also Ostrom [15, pp. 123-150].

11. Baumol used a similar logic to derive his argument that it was a rational strategy for individuals to allow themselves to be coerced into taking or refraining from an action so long as all other affected individuals were also coerced in the same fashion [1].

12. Wood thought this pattern notable enough to emphasize it when titling his book on the political economy of the New York metropolitan region, 1400 Governments [21].

13. Greer summarized the basic presuppositions of the social scientists engaged to prepare a "research" report on the needs of St. Louis, Missouri, for reform. In his words:

> It was hypothesized that the ad hoc development of governmental

units with little rational control would have these consequences: (1) great variation in the legal foundations and the real purposes of governmental units in the metro area, even resulting in governmental legitimacy used chiefly to _prevent_ integration, (2) overlap in the units of government providing the same or similar services, resulting in conflicts of authority and duplication of service, (3) great variation in the size of governmental units, resulting in an assignment of services (which must be provided the citizens according to the usual division of labor among local governmental units in America) utterly disproportional to the jurisdictional and fiscal resources of the government unit. It was further hypothesized that this congeries of heterogeneous and overlapping governmental units would produce these results: (1) great variation in output, or service levels, among the different units, (2) great variations in the efficiency or cost benefit ratio, among the units, and (3) a generally low level of some services throughout the area, due to the deleterious effects of poor services in one governmental unit upon the services in other, interdependent units. . . . Finally, it was hypothesized that size of governmental unit would have no relationship to the vitality of the local political process. . . . These propositions were not initially stated as hypotheses; _their validity was assumed, for they were part of the over-all ideology of the movement to save the cities_ [5].

14. Several studies undertaken at Indiana University have attempted to examine propositions derived from the reform tradition. See Ostrom and Parks [12] and Ostrom et. al. [11].

# REFERENCES

1. Baumol, William. 1952. Welfare economics and the theory of the state. Cambridge: Harvard University Press.
2. Buchanan, James M., and Gordon Tullock. 1962. The calculus of consent. Ann Arbor: University of Michigan Press.
3. Dahl, Robert A., and Charles E. Lindbolm. 1953. Politics, economics and welfare. New York: Harper and Row.
4. Downs, Anthony. 1957. An economic theory of democracy. New York: Harper and Bros.
5. Greer, Scott. 1961. Dilemmas of action research on the metropolitan problem. In Morris Janowitz, ed., Community political systems. Glencoe, Ill.: The Free Press.
6. Hirschleifer, Jack, James C. DeHaven, and Jerome W. Milliman. 1960. Water supply: Economics, technology and policy. Chicago: The University of Chicago Press.
7. Madison, James. 1937. The federalist, No. 53. New York: Random House, Modern Library Series.
8. Olson, Mancur. 1965. The logic of collective action. Cambridge: Harvard University Press.
9. Ostrom, Elinor. 1972. Metropolitan reform: Propositions derived from two traditions. Social Science Quarterly 53(Dec.): 474-493.
10. ________. 1965. Public entrepreneurship: A case study in ground water basin management. Ph.D. dissertation. University of California, Los Angeles.

11. ________, William Baugh, Richard Guarasci, Roger Parks, and Gordon Whitaker. 1973. Community organization and the provision of police services. Sage Professional Papers in Administrative and Policy Studies. Beverly Hills, Cal.: Sage Publishers.

12. ________, and Roger B. Parks. 1973. Suburban police departments: Too many and too small? Urban Affairs Annual Reviews 7(spring).

13. Ostrom, Vincent. 1973. Intellectual crisis in American public administration, The. University, Ala.: University of Alabama Press.

14. ________. 1971. Political theory of a compound republic, The. Blacksburg, Va.: Virginia Polytechnic Institute, Center for the Study of Public Choice.

15. ________. 1968. Water resource development: Some issues in economic and political analysis of public policy problems. In Austin Ranney, ed., Political science and public policy. Chicago: Markham Publishers.

16. ________, Charles M. Tiebout, and Robert Warren. 1961. The organization of government in metropolitan areas. American Political Science Review 55(Dec.): 831-842.

17. Riker, William H. 1962. The theory of political coalitions. New Haven: Yale University Press.

18. Special districts proliferate. 1973. Nation's Cities 11(Feb): 12.

19. Weschler, Louis F. 1968. Water resources management: The Orange County experience. Davis: University of California, Davis Institute of Governmental Affairs.

20. Wessell, Robert I. 1963. Reform county government? Many proposals but little change. Iowa Farm Science 18(July): 10.

21. Wood, Robert C. 1961. 1400 governments. New York: Doubleday Anchor.

## CHAPTER SIX

# A Methodology for Planning Community Services Under Scarcity and Conflict

ROBERT W. CROWN

THE SENSE in which the term "planning" is used here differs from the meaning usually associated either with the design of service delivery systems in municipalities or with putting physical construction in place. "Planning" in those settings has tended to deal with problems of organizing and completing capital projects. But "planning" in this chapter deals with the decision-making process which, in some cases, could lead to later design and construction stages. Thus, it deals with areas of greater political conflict, with areas in which public action by private citizens might be focused, and basically, with the eventual selection of the set of activities that will be performed as "implementation" of the programs viewed as best for meeting various social goals (as perceived by someone), given the limits imposed by available resources.

This conception of planning requires that a comprehensive set of services be considered in the planning process, including, as alternatives, various levels of services already being delivered as well as various levels of those services that might potentially be included.

The variety of factors and forces that determine what set of actions are "optimal" make it necessary to have a methodology for systematically sorting and comparing the alternatives so that generally acceptable outcomes can be approached. It is to this problem that the chapter addresses itself. The presently described system, however, cannot actually dictate what must be done or initiated in a particular setting, because it does not generally allow for the specification of areas of political compromise that certainly are essential for arriving at acceptable community decisions. Rather, what the system does is offer a quantitative knowledge-base upon which meaningful compromise can be built.

This chapter first makes some distinctions that will be useful, and then illustrates the methodology with a hypothetical example. The solution in the example will show that the community will be better off, given its resources, if it undertook several lower priority projects as a package, rather than proceeding with the highest priority project first. This makes some sense intuitively, when we consider our own private decisions. We seldom do the one thing we would most like to do when this rules out the possibility of doing several things, each of which gives us satisfaction, but in smaller amounts each. The important thing about the system that is described is that it allows the user to arrive at the appropriate mix of the lower priority items (and also leaves the flexibility to have some of the highest priority project included) without guessing.

## SCARCITY AND CONFLICT

Conflict arises because of the scarcities of resources needed to satisfy all desires simultaneously How the conflict is resolved is part of society's problem. Typical economic tools for resolving conflicts in allocations include prices of scarce items. (Whoever has the where-with-all to trade for the item gets it) or other "rational" choice techniques, such as benefit-cost analyses, impact analyses, and so on. Other means of conflict resolution are also familiar, ranging from reasonably civilized practices, such as acceptance of "majority rule" after advocacy, all the way to the more barbaric acceptance of "strongest takes all."

In the system considered here for the planning of services, there is an internal arbitrator of the conflict between alternative activities that might be feasible, closely resembling benefit-cost analysis. There is also a point where social conflict comes into play in assigning the weightings or priorities among the possible feasible alternatives.

Scarcity is the other side of the conflict coin and exists because of excess demand and aspirations relative to means. Many things in addition to financial resources are scarce for a community. Community acceptance of innovation and change can be viewed as scarce, since at a point in time given a "current" social setting and condition, a set of values and attitudes concerning further innovation and change will constrain the ease with which new movement is tolerated. Because bases of power are also limited, the political system can be overloaded; this scarcity also constrains movement. A further part of the overall scarcity that faces the community is the limited time and energy (and to some extent, the scope) of the planner himself. Limits on numbers of administrative as well as line personnel constrain change, in addition to the equally significant staff resistance changing new functions.

The financial constraint itself does not have a simple or homogeneous nature. First, limits exist on the ability of the local authority to generate income from taxes, both by virtue of the character of the existing tax base and because of local resistance to raising tax rates. Secondly, and related to the first aspect of taxing, a limit exists on the community's ability to incur debt (which is the same thing as enjoying tax revenues today that are "collected" in the future). Finally, there are limits on the amount of imported financing (externally generated income that comes as "foreign aid" to the community) that a community can secure. What is equally important and seldom recognized is that there are probably limits to the extent that a community itself can usefully absorb the full benefits from external financing; any unused benefits may leak out of the community or be partially or wholly devalued by inflated real local costs or cost in terms of other projects foregone.

Another problem with finance that is externally generated (but possibly not as large a problem as it first appears) is that external finance is generally tied to a specific project or project types, with requirements that locally generated finances be used in some matching formula. When the specified projects are not those that the community itself values most and would choose for itself, there is an added devaluation of resources to the extent that the community would have been "better off" under its own choices with untied external finance. That is, there is a devaluation to the amount received by the amount of the opportunity cost of the forced priorities. This value lost is even higher when matching funding requirements, and the limits on the local taxing ability create financial shortages even for projects that had higher priority--as if the two scarcities conspired to make matters even worse than they might otherwise be. To be sure, in a situation that appears to hold this kind of outcome, the community could choose to forego its participation in the program. But, local politics may make this even less desirable than taking the devaluation on other programs.

The concern that tied funding of projects forces the community to be worse off may be lessened if projects that are actually funded have benefits that the public perceives but that were not intended by the original designers of the project. For example, suppose the community had potential projects for both health (in the sense of public health programs) and industrial parks but could only secure external financing tied to industrial parks. Suppose also that the public viewed the installation of sewers, water treatment facilities, and a system extension as a contributor to environmental health. The part of industrial park development dealing with its servicing, therefore, could contribute positively to the community perception that its health need was being met. Therefore, there could be (with proper design) a positive gain in two areas of community concern, even though it at first appeared that the projects were competitors. In essence, when community planning is undertaken with a more comprehensive view at the start, and with an idea that various service systems in the community are potentially interdependant (and not necessarily competitors for funds), planners can exploit the situations that may be outside of local control with "crafty" planning and manipulation of designs and options that are within local control.

## FACILITY AND SERVICE

Another distinction will assist in making clear that options other than those which are immediately apparent might be open for community planners. This distinction is between "facilities," which have the character of being essentially fixed in place and are usually buildings of one kind or another, and "services" which are more like the stream of useful qualities that emanates from the "facility." A parallel might be seen in some piece of capital equipment and the work it does: the equipment itself can be thought of as having no use in and of itself (this would be its "facility" nature), but it has value in that it generates a flow of work that had a particular value (its "service" nature). Clearly, from the planning viewpoint, the two characteristics are closely interlocked, since the character of the facility places constraints on the service flows that it can generate, and the need for services flowing at a given rate, and of particular types, limits the consideration of what might be appropriate facilities.

Distinguishing between these two related characteristics permits the planner to consider such alternatives as making old facilities generate new services rather than creating new facilities (the remodeling versus new building problem), using less fixed "facilities" to generate services to attain more spacially mobile delivery (the remote or mobile unit problem), or imaginative use of building funds from different sources to generate more comprehensive service flows in one place, in a given analytic framework (such as the one described below).

## LIMITATIONS ON SCOPE

While it is advisable to be as comprehensive as imaginable in the planning process, to ensure that even marginal contributions of seemingly remote possibilities are exploited, there is a legitimate limit in the short run to the scope of the planning activity that is relevant for the community. It would be naive, and a waste of local resources, to attempt to deal with problems that are products of circumstances beyond local control. If, for example, a problem of local land use is perceived, but land-use planning is reserved for state government (or area-wide government), then a local authority must view land-use regulations as a short-term constraint on activity--not as an area in which local action alone can make a difference. This constraint could be removed in the longer run, no doubt, with new regulations drawn so as to accommodate some better plan for the future, but this possibility would be beyond the scope of strictly local decision making. Similar situations might exist with forms of environmental pollution that affect a community as an externally generated condition (e.g., upstream pollution of water, or atmospheric pollution originating outside the legal jurisdiction of the local authority). Areas in which solutions to problems legitimately demand the development of new technologies and basic research development (as contrasted with areas in which solutions could be found by applying known technology) would also be outside the scope of local planning.

Accepting that there are short-run limitations on the scope of the planning activity, however, does not necessarily mean that the local planning authority should not try and imagine what it could do to alter the longer run situation by removing constraints that limit short-term desired activity. Further, by conducting a short-term planning exercise such as the one suggested here, it would become evident what added benefits might accrue from efforts to alter restraints in the longer run.

Finally, the scope of a planning activity conducted at the present would be limited to activities where real variability is possible. If, for example, a decision was made "last year" to undertake a capital project, then part of the resources available for "this year's" activity would have already been committed. Indeed, this would also be true for some decisions that had been made many years ago, as in the case of hospitals or municipal buildings already in place, or basic services which are fundamental to "community" (such as fire or police services). The only decision that can be made in these instances is to raise and expand levels of quality or permit them to depreciate (by cutting allocations for maintenance).

So, to simplify the discussion, the following will deal with the planning process as it relates to the allocation of resources to activities after the most basic fixed costs to the community have been accounted for.

## THE PLANNING METHODOLOGY

Keeping in mind the ideas put forth in the preceding sections, one can project a basic method for developing plans for the community that includes a variety of possible activities in a package, rather than plans that simply result from a series of decisions that are made independently of each other and on an ad hoc basis. The method described here can be simplified or made more complex, depending on the data collection and management capabilities of the users. A simplified version of the method is here described and applied in an illustrative (and hypothetical) situation.[1] More complex treatments could be evolved if local authorities were to acquire the assistance of consultants or extension persons with computer capability.

The method requires that the planning authority ask, "What is the package of public services that can be added to what we now have that is best for the community overall, recognizing that some of our resources are already allocated because of past decisions."

Three types of basic information are then needed:

1. Basic inventory of resources to be allocated. This inventory would include: detail on current revenue that could be allocated; detail on the capacity of the community to raise added funds through bonded indebtedness; how many employees could be added to the payroll; land available, or possibly available; and amounts and matching conditions of funding from state or federal sources. In addition, the planning authority could also take into account conditions in other sectors of the community economy, such as slack in the building industry (since making added demands on a supplier sector, e.g., construction, may frustrate the private sector, and the desires of the public sector to complete projects already under way), or possible competition in capital markets that could limit implementation of plans once drawn.

These conditions could be viewed as added resources or as limits on resources thought to be available. The resources would be classified into categories that were similar to the classes of resources demanded by the various projects or activities contemplated.

2. Basic feasible alternatives that might be in the plan. Three issues are involved in developing this set of information:

   a. What constitutes a logical unit of any facility for possible inclusion in the plan. As a general principle, the service would be described in terms of a unit of facility that could not be subdivided further and still retain the quality that makes it a unit capable of delivering the service. For example, if the question involved making additions to hospital services, the basic unit would not necessarily be the "room" or the "bed," since a "bed" alone would not really capture the essence of hospital service. But, possibly the "wing" or "ward" or "service" containing several "beds" would describe the essentials of the service delivered. Similarly, basic units of "sewer and water" treatment and delivery can be imagined, as could basic units capturing the essence of "park," "industrial site," and so on.

      Further refinement of the notion of the basic unit to be considered is made when the basic unit is considered in combination with other facilities, either existing or in the process of being planned. Let us refer to the services of hospitals again for illustration. Having decided that the unit would be a "service," it is legitimate to consider whether the facility generating the service would be set up as part of the existing hospital, in a separate, clinic-styled setting, or as part of some other community facility. There would be potentially different benefits accruing from any of these alternatives, and certainly, different demands placed on resources. The alternatives, therefore, would be competitive, and a planning process would have to arbitrate the issue (which is possible in the method described later).

b. How to limit the options considered. More will be said in the section which follows about the selection and rating of alternatives. Further, this problem of "narrowing the field" has been described earlier in this chapter in the context of devoting community energy and resources only to problem areas that can be reasonably controlled at the local level. As a general principle, however, those alternatives that appear to be only marginally feasible, because of the lack of technology or knowledge in the area, could be eliminated from consideration. However, the elimination of alternatives in the preplanning stage runs the risk of seriously reducing the power of genuine planning. Clearly, the key to selection of alternatives to be considered is one of the areas in which conflict is certain to arise, however fair and reasonable individuals in positions of power try to be.

c. Basic resources needed per unit of facility considered. Whatever options are selected for inclusion in the set from which the plan will be generated, each of them will have an associated set of requirements needed to complete the procurement of one unit of the facility involved. These requirements could be available from engineering or architectural specifications, could be developed from other communities in which facilities like those considered had been constructed, or could be developed through staff work in surveying and construction of "budgets" for the kinds of projects to be considered. The classes of resources that would be demanded would be classified to correspond with the classes of resources described about in section one; indeed, these two classification schemes should be developed together to highlight only those resource types that would be scarce to the community and (or) competitively bid for by two or more possible alternatives in the plan. Resources of the community that it can treat as essentially free (in the sense that they are abundantly available to the community and no other) and for which there would not be competition between alternatives in whatever plan that emerged need not be specified, since such resources would never make a critical difference to the decisions that were made. But such resources are rare in nature.

3. Ranking alternatives that might be in the plan. No other problem in the planning process would be as difficult to deal with, nor as subject to political pressure, open conflict, and bitter feeling, as the determination of the ranking of alternatives or "priorities." It is in this area that accusations of "vested interest," "hidden agendas," "payoff," and the like come to the fore. But it is also in this area that the so-called "democratic process" can best be allowed to work for maximum community participation in the determination of the

community's future.

What is needed for the planning process is a rating of the options (not just a ranking) to be considered (and, to be sure, inputs on what options to include); that is, the assignment of a number to each alternative that shows its desirability relative to the others to be considered. One way of doing this is to assign the number "100" to the most desirable option, then assign an "appropriate score" between 0 and 100 to the rest.

Several means can be suggested for determining the sizes of the numbers (weightings) to be assigned, and all of them could be used at one time or other as a compendium of evidence. For example, a group interaction technique called the "Delphi" technique could be employed for determining both the scope of the options and the weightings simultaneously.[2] A variant of this technique is the Nominal Group Process method described elsewhere in this volume.[3] Basic surveying of random samples of the community's population, if managed so that useful information comes forth, can also be employed for limiting options and assigning weights to the options that remain. But surveys that simply ask what people want, without also asking what they are willing to give up in terms of paying increased taxes, foregoing benefits from other options, or paying on a fee-for-use basis, will not yield information from which real ratings can be determined.

Because the assignment of weights is of critical importance to the outcome of the plan, it is also worth the effort to modify the weights and develop two or three plans so that the final decision can be made with some knowledge of how sensitive the plan is to variation in the presumed priorities. The more sensitive the plan, as a general rule, the more cautiously would the planning authority approach its advocacy of the outcome of the process as "The Plan."

## AN ILLUSTRATIVE PROBLEM

The local Health Planning Council in a particular community thought that there was a need for an additional health-care service that was not being offered in the community. For reasons of accessibility and the possibility of future expansion, the Council thought that locating the service in a clinic, remote from the existing hospital, would be more beneficial than locating the service in the existing hospital. But they also recognized that constructing a separate clinic would be more costly than simply adding on to the existing facility. When looking for sites for the new clinic, the Health Planning Council found that another group of citizens was interested in establishing a new public park with a pool to replace the existing park, into which a pool could not be built on some of the same sites. In addition, the sites that were being viewed by these two citizens' groups were also being considered by the Chamber of Commerce, hoping to establish an industrial park.

The citizens advocating the pool with the park would have been happy, as a second-best situation, to establish a park without a pool outside of town. These citizens also wanted to see a Community Center built in town. The land they thought was best for the construction of the Community Center was an existing in-town park.

All groups wanted the town council to provide funds for initial capital construction and future maintenance. All groups thought that some bonded indebtedness (or issue of debentures) should be incurred for their own particular project. Also, the advocates of the medical service and the industrial park felt their own positions were strengthened because of the availability of matching outside grants from federal sources.

From the town council's point of view, there was money to undertake some of these projects but not all of them. Further, the town controlled land that would be useful for industrial parks and public parks, with pools and without. Also, the town controlled land on which clinics or community centers could be built.

But to forestall many rounds of politicking and bickering between these special interest groups, the town council decided to work for a comprehensive plan. The council reasoned that a comprehensive plan might include some of all parties, projects, and that, in any event, and second a comprehensive plan would use resources in one project that were not committed to another project. This would allow the council to manage the community's unique resources to the maximum well-being of all parties.

The council's staff prepared a basic inventory of resources that could be allocated in the appropriate time period in the future for all of the projects brought to the council (see planning methodology, Section 1, above). The council then made a staff member available to the special interest groups to assist them in defining the logical unit for possible inclusion in the plan, detailing a budget of resources that would be required if that one unit of their project was included in the plan, and encouraging them to see their own specific project in relation to the options open to the greater community. Table 6.1 contains a schedule of resources believed to be available to this community and a schedule of resources required per unit of project by each of the specialized projects described.

In order to reduce open conflict and ensure a base of support in the community that was as broad as possible, the town council decided to instigate one or other of the techniques described earlier for arriving at a consensus between the special interest groups and other groups whose specific interests were not apparently included in the projects under consideration. In this way the council hoped to arrive at a rating of the various projects already proposed by the special interest groups and open the door for any new suggestions or new alternatives that were not already on the table. After a round of compromise and negotiations, and based on evidence from surveys and other consensus in building techniques (such as those described earlier, both in this chapter and in this book), a list of scores contained in Table 6.1 emerged. The council's staff pooled this information into a planning table as illustrated in Table 6.2.

Table 6.1. Community resources available, resource requirements per unit of options, and rating of options.

| Options | Resources Required Per Unit | | | | | Rating Scale of 0 - 100 |
|---|---|---|---|---|---|---|
| | Local Taxes ($) | Grant at 10% Match ($) | Bonds ($) | Land in Town (Acres) | Land out of Town (Acres) | |
| 1. Health Care in Clinic (5-Bed Unit) | 100,000 | 1,000,000 | 100,000 | 0 | 1/2 | 100 |
| 2. Health Care in Hospital (5-Bed Unit) | 60,000 | 600,000 | 60,000 | 1/2 | 0 | 95 |
| 3. Public Park with Pool (5-Acre Unit) | 0 | 0 | 150,000 | 0 | 2.5 | 95 |
| 4. Industrial Park (10-Acre Unit) | 15,000 | 150,000 | 0 | 0 | 10 | 80 |
| 5. Community Center (1000 sq. ft. Unit) | 25,000 | 0 | 0 | 1/2 | 0 | 75 |
| 6. Public Park No Pool (1-Acre Unit) | 10,000 | 0 | 0 | 1 | 0 | 70 |
| TOTAL AVAILABLE RESOURCES[a] | 1.6 million | N.A.[b] | 2.5 million | 10 | 100 | |

[a] Expressed as resources available for allocation to new projects. These could be increased if old projects were terminated or cancelled.

[b] The limit on grants going to a specific community is not limited by usual means. Political considerations, senior government budgets, and so on are probably more limiting than any community characteristics. The limit in the community would be the limit on the community's ability to raise matching revenues.

Table 6.2. Planning work sheet (options correspond to Table 6.1).

| Resources | 1 | | | 2 | | | 3 | | | 4 | | | 5 | | | 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Res. Per Unit | Max. Size | Value Added | Res. Per Unit | Max. Size | Value Added | Res. Per Unit | Max. Size | Value Added | Res. Per Unit | Max. Size | Value Added | Res. Per Unit | Max. Size | Value Added | Res. Per Unit | Max. Size | Value Added |
| Taxes 1.0 mill. | 100,000 | 10 | 1000 | 60,000 | 16.7 | | 0 | | | 15,000 | 66.7 | | 25,000 | 40 | | 10,000 | 100 | |
| Bond 2.5 mill. | 100,000 | 25 | | 60,000 | 41.7 | | 150,000 | 16.7 | 1587 | 0 | | | 0 | | | 0 | 0 | |
| Land in 2.5 ac. | 0 | | | 0.5 | 5 | 495 | 0 | 0 | | 0 | | | 0.5 | 5 | 375 | 1 | 2.5 | 175 |
| Land out 50.0 ac. | 0.5 | 100 | | 0 | 0 | | 2.5 | 20 | | 10 | 5 | 400 | 0 | | | 0 | 0 | |
| | PLAN A<br>16.7 units of Option 3: using 16.7 x $150,000 = $2.5 million bond finance; residual = 0<br>16.7 x 2.5 = 41.75 acres of out-of-town land; residual = 8.25<br>Social Score = 1587; options still open are 4, 5, and 6. | | | | | | | | | | | | | | | | | |
| | PLAN A-1<br>With 2 units of Option 2: using 2 x $60,000 = $120,000 in tax revenue; residual $780,000.<br>2 x $60,000 = $120,000 in bond finance; residual $2,380,000.<br>2 x 0.5 = 1.0 ac. of in town land; residual 1.5 ac.<br>Partial Social Score: 15.8 x 95 = 1691<br>Social Score of Plan A-1: 1501 + 190 = 1691; options still open are 4, 5, and 6. | | | | | | | | | | | | | | | | | |
| Resources after PLAN A-1<br>Taxes $780,000 | NOT FEASIBLE | | | IN PLAN | | | IN PLAN | | | 15,000 | 53 | | 25,000 | 31 | | 10,000 | 78 | |
| Bond 0 | | | | | | | | | | 0 | | | 0 | | | 0 | | |
| Land in 1.5 ac. | | | | | | | | | | 0 | | | 0.5 | 3 | 225 | 1 | 1.5 | 105 |
| Land out 10.5 ac. | | | | | | | | | | 10 | 1 | 80 | 0 | | | 0 | | |
| | PLAN B<br>As PLAN A-1 with 3 units of Option 5: using 3 x $25,000 = $75,000 of local taxes; residual $705,000<br>3 x 0.5 = 1.5 of land in town; residual 0<br>Partial Social Score 3 x 75 = 225<br>Social Score of PLAN B: 1501 + 190 + 225 = 1906; options still open are 4 | | | | | | | | | | | | | | | | | |

Table 6.2. continued.

| Resources | 1<br>Res Per Unit | 1<br>Max. Size | 1<br>Value Added | 2<br>Res. Per Unit | 2<br>Max. Size | 2<br>Value Added | 3<br>Res. Per Unit | 3<br>Max. Size | 3<br>Value Added | 4<br>Res. Per Unit | 4<br>Max. Size | 4<br>Value Added | 5<br>Res. Per Unit | 5<br>Max. Size | 5<br>Value Added | 6<br>Res. Per Unit | 6<br>Max. Size | 6<br>Value Added |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resources after PLAN B | | NOT FEASIBLE | | | IN PLAN | | | IN PLAN | | | | | | IN PLAN | | | NOT FEASIBLE | |
| Taxes $705,000 | | | | | | | | | | 15,000 | 47 | | | | | | | |
| Bond 0 | | | | | | | | | | 0 | | | | | | | | |
| Land in 0 | | | | | | | | | | 0 | | | | | | | | |
| Land out 10.5 | | | | | | | | | | 10 | 1.05 | 84 | | | | | | |

PLAN C

As PLAN B with 1.05 unit of Option 4: using 1.05 x 10 = 10.5 acres of land out of town; residual 0
1.05 x $15,000 = $15,750 in taxes; residual $689,250
Partial Social Score 1.05 x 80 = 84
Social Score for PLAN C: 1501 + 190 + 225 + 84 = 1990

## DEVELOPING THE BEST PLAN

For each option, two initial pieces of information are determined. First, calculate the maximum number of units of each option that the resources would allow if resources were entirely assigned to that option. This is calculated by dividing the initial resource availability by the per unit resource required for the options. For example, if all tax revenues were assigned to the clinic, 10 units of "clinic" could be had; if all potential bonds were assigned to the clinic, 25 units of "clinic" could be had, if all out-of-town land was assigned, 100 units would be possible.

Then, for each option, underline the smallest maximum attainable level. In the case of the clinic, this is 10 units. It is irrelevant that 100 units might be had by assigning all out-of-town land, since there would not be enough tax revenue available to attain more than 10 in any event. Next, for each option, calculate the maximum attainable "social score" which is the product of the maximum attainable size and the per unit rating. Evidently, the 10 units of clinic would yield a maximum of 1,000 as a social score.

The first problem for the planner is to decide which option should be included in the plan first. Clearly, it makes most sense to initially assign scarce resources where they will yield the greatest social score. Therefore, resources should be assigned first to Option 3 (yielding a possible score of 1587 on 16.7 units of the option if it were expanded to its limit). Tentatively, Plan A would be determined, giving the schedule of resources used and residuals left shown in Table 6.2. Note that the option that appears to give the greatest score first (i.e., Option 3) is not the clinic, even though the clinic was the "top" priority on a simple rating basis.

But how far should this option be exercised? As far as possible, provided that it make best use of the resources that prevent the adoption of other options. If the option chosen first did not also yield the highest score per unit of scarce resource, it would add to the overall social score to back away from attaining the maximum possible size of Option 3 and substitute a second option that made better use of the scarce resource. Let us estimate the "score per unit of scarce resource" for Option 3, and also the other options requiring "bond" finance (Options 1 and 2). Then divide the per unit rating by the per unit resource need. Option 3 yields a score of 0.0006 per unit of bond finance, Option 1 yields 0.001, and Option 2 yields 0.0016. (Again, note that Option 1 which was rated as the first priority project does not make as good a use of resources as a second-rated option.)

Therefore, even though Option 3 gives the best overall social score taken alone and expanded to the limit of scarce resources, the overall social score could be increased using some bond finance in attaining Option 2 in addition. The best mix of Options 3 and 2 is determined as follows:

1. Estimate the amount of Option 2 possible if Option 3 is reduced by 1 unit: 1 unit of 3 reduced released \$150,000 in bonds, 1 unit of 2 increased requires \$60,000 in bonds, so the substitution rate is 2.5 to 1 (or \$150,000 ÷ \$60,000).

2. Estimate the gross amount of other resources if 2.5 units of Option 2 substituted for unit fo 3: tax revenue, 2.5 x $60,000 = $150,000; land in town, 2.5 x 0.5 = 1.25 acres.
3. Estimate net difference in resource used in 2.5 units of Option 2 are substituted for 1 of Option 3, which is the amount required by adding 2.5 units of Option 2 less the amount saved by reducing Option 3 by 1 unit: tax revenue, $150,000 - 0 = 150,000; bond financing, $150,000 - $150,000 = 0; land in town, 1.25 - 0 - 1.25 acres; and out-of-town land, none extra needed. These net amounts represent the added resource costs that substitution demands, so it is important to know how much substitution resource availability can support.
4. Estimate the smallest maximum feasible number of units of Option 2 possible, if all resources were made available as originally done for all options, using net resource needs estimated in step 3:
   - for tax revenue, $1,000,000 ÷ $150,000 = 6.67
   - bond financing not binding
   - for land in town, 2.5 ac. - 1.25 ac = 2.

   So there could be 2 units of Option 2 in the revised plan.
5. Estimate revised plan A-1, starting with 2 units of Option 2, and then assigning residual resources to Option 3 (as shown in Table 6.2, work sheet).

The revised plan, A-1, uses all bond financing capability, so that Option 1 no longer is feasible in any degree.

A similar set of steps, starting with reestimating the maximum feasible size of Options 4, 5, or 6 that the residual resources could support, reestimating the maximum contribution that any single new inclusion could make to social score, and, finally, arbitrating to find the best mixed solution, if the option that apparently adds most fails to use the limited resource best (following the steps just outlined), would generate the final solution.

Calculations shown in Table 6.2, with resources remaining after Plan A-1 is made, shows that Option 5 adds the most to the total plan. Further, it makes best use of the scarce resource, land in town (with a rating of 75 ÷ 0.5 = 150 per unit used, versus a rating of 70 ÷ 1 = 70 per unit used in Option 6). Plan B is again modified to assign residual resources to options.

Plan C represents the plan giving the highest possible social score under the assumptions made. At first it might have seemed that pushing Option 1 to its limit (10 units) and using residual resources for Option 3 (3 units possible) might have done as well, but such a scheme would have yielded a social score of 1950 compared with a score of 1990 for Plan C.

## MODIFICATION OF SOLUTION TECHNIQUE

The solution just calculated assumed that all units of an option would be rated the same by the community; that is, that the social desirability of, say, park land with pool would be the same for the first few acres developed as the last feasible acres developed. There could be cases where this assumption was a poor reflection of community preferences, particularly in cases where there was, for example, a "maximum size" that would be totally acceptable to the people, or where it was agreed that there was an upper limit on "need." In such a situation, it would be a reasonably simple matter to express any option as if it were two: each having identical demands for resources but different racings reflecting the differences in community's desire for the first few rather than the last few units.

To illustrate, assume that there was an agreed to limit on the need for the clinic (in 5-bed units), separate from the hospital, which was originally given a rating of 100 on all of the feasible units that might appear in the solution. The first 20 beds or 4 units were really what the public rated at 100 per unit; after that, need was virtually satisfied so that additional units would be rated at 50 per unit (i.e., the "surplus" would be worth about half as much as the basic number of units needed). There would be two "separate clinic" options in the calculation instead of one. But because of the ratings, if the option were ever comparably better than all others open to the community, the highest-rated suboption would be exercised first. This subdivision modification could be made as often as there were agreed upon changes in the preferences of the community for different levels at which a project could be undertaken. The subdivision could also be made if there was a recognized change in the amount of resources needed per unit of the option after different levels of the option had been exercised.

## CAVEATS AND CONCLUSIONS

The methodology presented here is only as good a guide to community action as the basic data is as a reflection of real community situations, resource limitations, and perceptions of the priorities facing it. The calculations are only mechanical devices that give a net outcome of all the assumptions and input data; the calculations themselves do not hold any answer. But, having said this, the calculation is free of interpretation and forces the user to face the hard result of his assumptions.

In addition to showing a plan that makes the best of community resources, the calculations, if redone using other scores and rating systems, show how sensitive the plan would be to errors in the rating used. This would show how close or how far from the consensus of action the plan actually was. Further, by being able to predict which community resources were least scarce (in the example, it is tax revenues which end up in a surplus position with $689,250 going unused in Plan C), and most scarce (in the example, it is bond financing), appropriate strategies to augment community resources could be planned.

Most significantly, however, the exercise shows the usefulness of treating all resources and all options that are open to the community as a package from which planners try to attain the most for the community. In the example, it might have appeared "obvious" that the separate clinic would be undertaken first, then whatever project could use the residual resources be undertaken second and so on. After all, it would be argued, everyone agreed that the separate clinic was the highest priority. But by undertaking the separate clinic as a project, it would have been impossible to undertake the breadth or extent of other projects that give a greater total score together, even if they give lower scores separately.

## FOOTNOTES

1. The method used in the illustration is adapted from a method developed by Dr. Ivan L. Corbridge, Professor of Economics, Brigham Young University, Provo, Utah. Dr. Corbridge developed the technique described for use as a planning tool for farm and ranch managers who do not have access to computers nor have knowledge of the Simplex method of solving linear programming problems [1].
2. "Delphi" techniques involve gathering the opinions of a variety of experts on the solution of a problem or on the definition of a concept. After the first round of opinions is pooled, each of the experts is given the opportunity to revise his opinion. Third and fourth rounds are initiated until a concensus begins to emerge.
3. See chapter 4. "A Strategy for Establishing Planning Priorities," in this volume.

## REFERENCES

1. Corbridge, Ivan L. 1973. Farm and ranch management. Provo, Utah: Brigham Young University, Department of Home Study.

## CHAPTER SEVEN

# Planning Service Delivery Systems for Rural, Sparsely Populated Areas

ANNE S. WILLIAMS

MUCH CONCERN, particularly at the local governmental level, has been evident regarding the most efficient and effective methods for organizing and deliverying public services to residents of both rural and urban areas. A number of service delivery models have been suggested for urban areas, but there have been relatively few applications of service delivery models to rural, sparsely populated settings, and many of these have been marked by limited success.

Rural public services must be provided through a substantially different form of organizational structure than is appropriate to the urban setting. An integrated service delivery approach is suggested in this chapter as a means for furthering the effectiveness and efficiency with which rural public services might be provided. First, however, it is appropriate to describe what is meant by a service delivery system.

## HUMAN SERVICE DELIVERY SYSTEMS

The implicit, if not always overtly stated, goals of providers of human services are: (1) to provide a variety of necessary public services at a minimum cost; (2) to provide services which are readily accessible to all citizens within the jurisdictional area of the service deliverer; and (3) to provide a high quality service adequate to the needs of the target population. The organizational structure developed for delivering the service, the cost efficiencies and available financial resources, the expertise of service deliverers, and the relative quality of the service as judged by service receivers are important measures of the extent to which these goals are achieved.

The service delivery system is defined as the set of inter- and intraorganizational linkages which are developed to provide an integrated organizational network for the provision of community services. Service integration, therefore, is the process by which two or more service organizations with mutually compatible objectives, service elements, and client groups are linked together to facilitate service delivery in a coordinated and comprehensive fashion. The service delivery system is the organizational means by which service integration can be achieved.

More frequently than not, one finds a variety of autonomous organizations having similar service goals and working to provide similar (if not always identical) services to a similar range of clients. For example, human service organizations often have separate sources of funding (public as well as voluntary); overlapping but different jurisdictional areas; separate and autonomous organizational units; and similar client groups, objectives, and goals. To achieve service integration, reduce duplication, and achieve greater efficiency, these various elements of the organizational structure must be reorganized and linkages between and among service organizations must be developed.

Criteria for evaluating human service delivery systems

A number of system elements must be assessed in order to adequately evaluate the effectiveness and efficiency of alternative service delivery systems. Most notable among these is an evaluation of the "adequacy" of the service provided. The evaluation of whether a service is "adequate" or not is clearly a value judgment based upon the preferences and expectations of the person making the evaluation. However, service adequacy can be evaluated using a framework which incorporates a number of objective criteria. Whether the service evaluator is a professional providing the service or a layman receiving the services will importantly affect the perception of service adequacy. The judgment of professional service providers is here considered the "expert judgment" aspect of service adequacy, and the opinions of laymen (or receivers of the service) comprise the "public judgment" measure.

It is likely that neither the individual expert nor the individual layman will agree with one another, with other experts, or other laymen concerning the adequacy of a given service. Both expert and laymen, however, are likely to evaluate services in terms of their efficiency. Most notable among efficiency criteria are: (1) How much does it cost to provide the service (i.e., per unit delivered)? (2) Is available technology employed in providing the service? (3) Does overlap or duplication exist among organizational units providing the service.

A second criterion one might use in evaluating adequacy of service is "effectiveness." Consideration of effectiveness might include the following measures: (1) Is the service readily accessible to all segments of the population? (2) Does provision of the service result in the desired outcome?

Another important element in evaluating service adequacy is the degree to which clients experience "continuity" in the delivery of services. Continuity would be achieved when the needs of clients are comprehensively evaluated and a "package" of interrelated services is designed to meet their needs in a continuous fashion. In most communities, and this is particularly the case in small, rural communities, no one service organization offers a complete range of public services. Clients requiring multiple services are therefore referred to other agencies which then provide elements or parts of their total service needs. Usually, acceptance into one service organization does not result automatically in acceptance into a related service organization. It is also often the case that clients' needs are not comprehensively evaluated by any one service agency and that needed services are offered in a fragmented and discontinuous fashion, resulting in an ultimate service outcome which does not satisfy the needs of the client. In such cases the client becomes "lost" in the service-delivery maze, and the total problems of the client are not treated in an integrated or comprehensive fashion. To illustrate, a client might receive family planning information and counseling. But, following the completion of this phase of the service, he or she must apply to a separate service organization in order to receive financial assistance or transportation to obtain medical and pharmaceutical services necessary to implement family planning procedures. The desired service outcome, family planning, is therefore not achieved in an integrated, cohesive fashion.

Economics of scale can be achieved by coordinating the services of separate service organizations. For example, expensive available technology might be shared among two or more service organizations and the skills of highly paid human resource personnel could be shared as well. By combining a number of system elements among two or more service organizations, economics of scale can be achieved. More importantly, however, the accessibility of the services to citizens can be heightened, and the continuity or comprehensiveness with which the needs of clients are met can be vastly improved. The major goals of service integration are therefore to enhance the accessibility of the service and provide for greater continuity in service delivery, both of which are likely to result in more positive service outcomes.

## THE IMPACT OF SOCIAL FORCES ON RURAL PUBLIC SERVICES

Continuing urbanization of American society has been accompanied by three major social forces which have profoundly affected the abilities of rural areas to provide a wide range of high quality public services. These social forces might be described as: (1) the increasing "social cost of space," (2) increasing ineffectiveness of rural community leaders, and (3) dominance of vertical over horizontal community linkages. In the following pages, an attempt will be made to describe each of these social forces, their implications for the delivery of rural public services and, finally, to suggest some ways of mitigating their adverse impacts on rural communities.

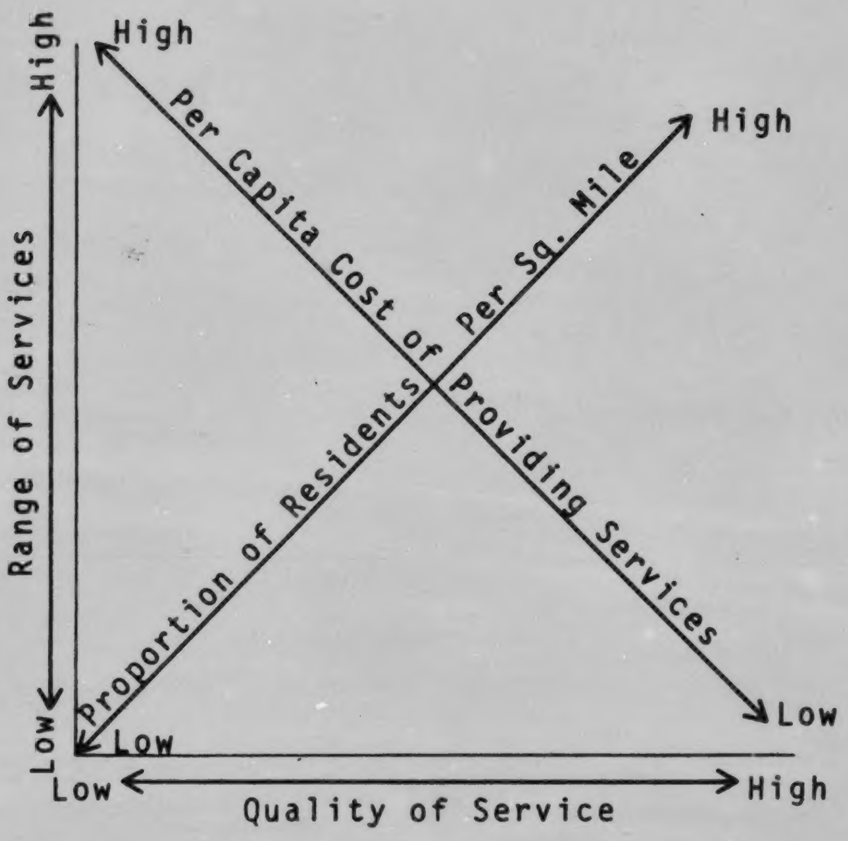
## Social cost of space

Kraenzil has conducted extensive studies of "the social cost of space" [7]. His findings suggest that the per capita costs of services are substantially higher in areas of sparse population when compared to more densely populated or urbanized areas. Outmigration of rural residents has resulted in continuing increases in the costs of services and, to a considerable degree, decreases in locally available opportunities for health care and a variety of other public services. Recent work by Kraenzil and MacDonald has particularly emphasized the inadequacies of rural mental health care and the high incidence of mental health problems in sparsely populated regions. They suggest that high "social costs of space" lead to higher economic costs over time when preventive efforts are not instituted [9].

Kraenzil makes a convincing argument that rural residents pay high social costs due to the sparsity of population and great distances they must travel to have access to quality public services [8]. The quality, type, and variety of rural public services are far inferior to the services enjoyed by contemporary urban Americans. Social costs are borne by rural residents in the form of time expended to reach service centers, or be delaying or foregoing needed services altogether because of relative inaccessibility. However, rural residents pay high economic costs as well.

The per capita cost of public services to rural residents is dramatically higher than the per capita cost to urban dwellers. Figure 7.1 displays these discontinuities.

In an effort to examine more closely Kraenzil's theory of "the social cost of space," interviews were conducted with providers of health care and local government services in six study counties of eastern Montana [18]. Service providers were asked to describe the services available through their agencies, cooperative arrangements, or referral systems established with other service providers in the area and to evaluate the quality of services available in their local jurisdictions. Data from these interviews allowed assessment of the service delivery system and the "perceived" quality of local health and government services in each of the study counties. Among the services evaluated were law enforcement, fire protection, recreation, and health care. In every instance, services available within the towns and cities in the six study counties were evaluated much more positively then services to the outlying rural areas. Services to outlying, smaller communities in the six study counties were considered "inadequate" by most community residents as well as by the service providers. The high financial cost of improving local public services was cited consistently as the major obstacle to improving the quality and range of locally available public services. Results of this study indicated that rural residents had resigned themselves to a condition of igure 7.1. Range, quality, and per capita cost of public services to urban and rural residents.


High
Low
Range of Services
High
Low
Per Capita Cost of Providing Services
High
Low
Proportion of Residents Per Sq. Mile
Low
High
Quality of Service

SOCIAL COST OF SPACE

relative service deprivation simply because it was not economically efficient to provide "quality" services to an area of sparse population.

As rural communities continue to lose population, the human and financial resources necessary to provide high quality public services also decline. A number of studies indicate that communities which have not increased in population or which have lost population have the highest proportion of persons over age 65, and citizens are characterized by a lower median educational level and a significantly lower median family income when compared to urban or growing population centers [5]. Other research indicates that outmigration from rural areas negatively affects the service capability and efficiency of the rural community as potential leaders leave the area and as rural public services are curtailed or withdrawn entirely [10]. As the number of farm trade centers declines, rural residents increasingly by-pass the small rural towns in search of a wider range of services. As a result, rural residents are traveling increasingly longer distances to satisfy day-to-day needs [6]. These trends imply continuing increases in the cost of rural public services and, to a considerable decree, decreases in available local opportunities for health care and a variety of other public services. Therefore, it appears that "the social cost of space" as described by Kraenzil is becoming even more severe as outmigration from rural areas continues.

## Rural community leadership

The role of local community leaders in enhancing service integration, particularly in rural, sparsely settled areas, is critical. A number of studies indicate that the degree of energy and skill exerted by local community leaders is a critical variable determining the future of the community and the quality of locally available public services. One comparative study of leadership in two rural towns indicates that the character and activity of the community leadership was a deciding factor in whether the towns grew, declined, or disappeared altogether [13]. Another comparative study of farming towns indicates that those leaders who most effectively organized their local resources to solve pressing community service problems were also the most educated leaders and were in the "...high status occupational levels generally associated with organizational skills, know-how, and experience" [4, pp. 228-250]. Numerous other studies have pointed out that rural people tend to have a relatively high anti-organization, pro-individual bias, both of which are inversely related to know-how, organizational adaptability, and organizational skills and experience [4, pp. 249-250]. These tendencies to reject growth and increased competition and to assume an anti-organization, pro-individualistic bias are only a few indicators of the anti-urban system of values which has tended to emerge in small rural towns. And this system of values tends to place heavy emphasis on the value of maintaining separate and autonomous public service organizations, thus creating greater obstacles to the achievement of service integration in rural areas.

### Increasing vertical ties and rural community leadership

Warren makes a notable distinction between "horizontal" and "vertical" ties [16]. The functioning of local community units (education, government, etc.) requires at least a minimum of local interaction and, to achieve service integration, interorganizational linkages must be developed. The relationship of the local community units to one another and their pattern of local interaction are called the community's "horizontal pattern." In contrast, local community units are also tied directly to systems of interaction outside of the community. This latter pattern of interaction is called the community's "vertical pattern."

Warren makes the case that, as our society becomes more urban and bureaucratic in nature, the horizontal ties among local community units become weaker while the vertical ties of local community units to the extra-community systems, of which they are a part, become increasingly stronger. If concurrent efforts are not made to maintain the strength of the horizontal community ties, the ability of local community leaders to achieve service integration at the local level is greatly diminished. In effect, fragmented provision of community services is encouraged by the simulataneous growth of vertical community ties and weakening of horizontal community linkages. The effect of vertical ties on the local community is evident when one considers the potential impacts of federal government programs on the distribution of power among service organizations at the local community level; slight changes in the policies and dynamics of the mass institutions can indeed have profound effects on the rural way of life and on its major social and economic institutions [14].

As stronger vertical ties impinge on local communities, dramatic changes in the functions and structure of these communities are experienced. For example, a case study of a small rural community (undergoing extensive change due to the growth of a nearby small city) indicated that the community leaders anticipated changes in the function of their town and that the leaders had rather definite ideas concerning the form that change would take. However, these leaders preferred changes other than those they expected and thought of themselves as better prepared to assist in the changes they preferred rather than in the changes they expected to take place. This case study points out that local community leaders had virtually no influence over the outside forces which were fundamentally affecting the future of their community. Likewise, they considered themselves ill-prepared to assist their community in adapting to the changes that were likely to occur. The author of this report concludes that "...the very people who must guide the process are rural (nonurban or suburban) in background, training and value orientation, and therefore, their leadership must be exerted under unfamiliar and(or) unfavored conditions, with each being called upon to do things he does not know how to do or is to some extent reluctant to do, even though he as accepted the responsibility of office or position" [12].

A separate study of leadership in small rural communities describes two communities in which no structure of leadership was identified [2]. This condition of "amorphous" leadership was thought to be associated with absentee ownership and the dominance exerted over the community by a metropolitan regional center. This last study suggests the implications of growing vertical ties to systems of interaction outside the community. One might conclude that these two communities were changing functions in response to social forces outside the community and that virtually no local leadership was exercised to direct or control events within the community.

The increasingly stronger vertical ties to extra-local community units have seemingly had a profound impact on "leaders' sense of control." A five-year longitudinal study of community leaders in one middle-sized rural town indicated the leaders' sense of frustration and their recognition of their inability to control change in their community [19]. Increasingly, leaders in this study community felt that large business, government, and vested interests outside the community had so much influence on local community affairs that local efforts to direct and control change were becoming less and less effective.

The inadequacy of local government and existing institutions to cope with problems involving both the city and the country is apparent. One author notes that: "The reluctance of local governmental units to become a part of integrated governmental structures and regional commissions has hindered progress in the handling of the problems of education, health, recreation and many other services needed in rural areas" [17]. Such resistance may lie in part in (1) an unwillingness of local leaders to give up power and positions, (2) a conflict of interest among occupational and residential groups, or (3) a lack of knowledge of the problems and means for their solution. In any event it appears that many rural community leaders are reluctant to assume extra-local ties to the larger society. As a result service integration at the local community level is frequently not achieved. This situation can be illustrated by the following example. In a very rural, sparsely populated county in the Northern Great Plains (undergoing moderate population increase due to the development of coal resources in that region) county commissioners were faced with a number of dilemmas. They correctly anticipated a fairly larger population influx within three to five years. They realized that, as county commissioners, they must begin planning facilities and services to accomodate the increased population. However, they were uncertain regarding the steps they should take to accomodate population increase and, in fact, were hesitant to make any plans whatsoever. One county commissioner explained: "It used to be an honor to be selected county commissioner; now, its a full-time job for a trained expert, and I'm not qualified to serve. In fact, I don't know of anyone in the county who is qualified!" Clearly these local leaders lacked the expertise, organizational skills, and experience to deal with the profound social and economic changes which were soon to occur in their county. Along with the anticipated population increases, a larger array and type of community services were expected by emigrants. Efforts to integrate service delivery systems and to prepare to cope with population influx had not been initiated because local leaders were unsure of the steps to take. A study to assess the public service needs associated with anticipated population growth concluded:

> None of the public services in any of the counties to be directly affected by construction of coal gasification plants is capable of handling the anticipated quantity of projected population growth without major adjustments. Further, none of the counties surveyed is very far along either with the process of planning for the expansion of

> public service delivery systems or with associated county-wide land use planning [11, p. 7].

This study emphasizes that effective public service planning was hampered by inadequate funding levels and by the absence of requisite trained service planners at the local level. However, more importantly, the researchers noted that the need for public sector planning was not fully recognized by local citizens and leaders in the study counties. The traditional style and pace of rural community government was simply considered inadequate to the task of organizing a greater variety of quality local public services. The authors concluded:

> Under the existing pattern of government which gives local units central authority over local development decisions, the need to create effective local institutions for planning and for the implementation of the resultant plans is the most basic public service need which this study has identified [11, p. 9].

One might suggest that small, rural communities are confronted with a major challenge. This challenge is to strengthen the "horizontal" ties within the community and in so doing provide mechanisms to encourage service integration at the local level. However, the "vertical" or outside forces which have tended to weaken and make obsolete many of the institutions within rural communities must somehow be used to the advantage of the local community. Not only have these stronger vertical ties made rural community institutions obsolete, but also they have placed many rural community leaders in a position of having to interact with extra-community forces over which they have little control and with which, either by education, informal training, prior experience, or value orientation, they are ill-prepared to deal.

## WHAT CAN BE DONE?

### Leadership training

In an effort to improve rural leaders' ability to function effectively as extra-local leaders in a social system dominated by vertical patterns of interaction, a number of states have instituted leadership training programs for rural residents [1]. The basic objectives of these projects are to increase the capabilities of rural leaders and potential rural leaders to effectively participate in local, state, national, and international decision-making and problem-solving processes. More specifically, these leadership training projects are intended to: (1) build an understanding of the economic, social, and political framework of our society; (2) provide an opportunity to use this knowledge to define and analyze important complex social problems; and (3) encourage rural leaders to take an active role in working with people (both within and outside of the local community) to bring about improvement in the quality of local public services and hopefully, in the quality of rural living. The basic premise underlying these training programs is a belief that rural leaders have not been prepared to adequately participate in the extra-local (vertical) community patterns of interaction. As a result, training of rural leaders is viewed as a mechanism for improving their capability to function as extra-local leaders and to effectively participate in decision-making processes which occur outside the local community but which directly affect it. The success of public service integration efforts in large p[illegible] depends upon the abilities of local community leaders and citizens t[illegible]stablish horizontal and vertical linkages among and between service organizations so that coordination of services can be achieved at the local community level.

Multi-county organization

The boundaries of most existing rural organizational units were drawn at a time when social and economic activities were oriented to now obsolete forms of transportation and communication. Failure to adjust boundaries has often resulted in serious deficiencies in administrative effectiveness, increasing costs for many public servcies, while failing to promote social and economic adaptation. Consequently, "regional," "area," or "multi-county" organization has become one of the principal vehicles for attempting to solve the social, economic, and political problems and opportunities of rural America. Indeed, most of the states have organized their counties into multi-county planning districts at the request of federal and state governments. This process has obviously enhanced and strengthened the vertical ties to rural communities but, at the same time, has had the unintended consequence of decreasing the horizontal ties within communities.

Multi-county organizational units have emerged largely as a consequence of the widening gap between the demands made upon government and its ability to respond. Local government has not had the geographic breadth, legal power, or financial capability to deal with areawide problems. State governments have found it difficult to deal with the multiplicity of local jurisdictions originated for purposes of planning, administration, and economic or social development. Federal government lacks the local support or proximity to adapt national programs and priorities to the needs of substate areas. The inefficiencies and duplication at each level of government have greatly diluted the effectiveness of many well-meaning public efforts. Local officials and citizens have often been immensely frustrated by the inability of any single governmental jurisdiction to solve problems or effectively influence existing or new state and federal programs.

Regional organization within and among states has in part met the need for more effective mechanisms to coordinate horizontal integration among local units of government and vertical integration among layers of government at the area, state, and national levels. But the potential capabilities of new organizational forms are yet to be fully realized in most parts of the United States.

Multi-county, area, or regional districting has been used primarily as a vehicle for collaboration among counties and municipalities on common problems and oportunities without creating a new layer of government. The new regional organizations have provided a general framework for comprehensive approaches to planning and development. They also provide an administrative channel to state and federal agencies for more efficient delivery and coordination of state and federal services.

A common theme among all the area organizations so far established is the concept of using a geographical area as a frame for reorganizing diverse development activities into a systematic areawide program. A second characteristic premise is that the territorial area is a social unit within which problems and needs can be identified, programs formulated, leadership developed, and citizen support mobilized.

From the federal point of view, the multi-county organizations are an innovative mechanism for federal-state-local cooperation in implementing national policies. On the other hand, such cooperative arrangements raise profound questions about division of power between the new structures and the old. Local governments, while urgently needing federal money, have strived to minimize the inroads of new organizations on their traditional authority. In so doing, they have minimized the influence of vertical patterns of interaction and attempted to strengthen horizontal community ties.

The most popular form of multi-county organization nationally is the "association of local governments" (variously entitled "federations" or "councils") in which each local government unit enters as an equal member and the governing board consists wholly of local, elected officials. These associations have mainly consultative and advisory functions and sometimes legal capacity for joint exercise of governmental powers. The member governments usually resist any movement toward organization of a regional government, however, in an effort to minimize vertical integration and maintain some semblance of local autonomy.

In its ideal form, therefore, the multi-county unit does provide a basis for effective partnership between local, state, and federal efforts. The regional unit can be a more viable mechanism for interrelating rural and urban concerns, for organizing, financing and supporting a professional planning and development staff, and for more efficient implementation of federal and state initiated areawide economic and social programs. It must be remembered, however, that the capabilities of local community leaders are a key ingredient in the effectiveness with which multi-county organizations function to achieve integration of governmental and other community services.

Having noted these possibilities for use of multi-county areas and training of rural leaders, it is obvious they are not a panacea for the resolution of all rural public service problems. Rather, they are tools that will only be helpful if designed and used with careful attention to their limited purposes. It may be appropriate to conclude that area organizations should attempt to fill the gaps that exist in the efficiencies and the effectiveness of existing jurisdictions, but should not necessarily attempt to replace existing governmental structures except in extreme instances when such structures are clearly no longer viable.

Local representative government should be preserved rather than diluted. However, pooling of some presently inefficient local government functions could serve to strengthen representativeness--by allowing elected officials more time and resources to deal with the larger problems of planning and development rather than supervising overlapping and inefficient public services. Most obviously, rural community leaders must also acquire the organizational skills and know-how to participate more fully in extra-local decision-making processes. In this way rural communities might hope to strengthen service integration at the local level by enhancing their horizontal patterns of interaction while also taking advantage of the resources and talent outside of their local community.

## MODELS OF ALTERNATIVE SERVICE DELIVERY SYSTEMS

Having noted some criteria for evaluating the adequacy of rural public services, the impact of social forces upon rural community services, and the potential role of leadership training and multi-county units in improving service delivery systems, the following organizational structures or models are suggested models attempt to achieve efficiency and effectiveness in providing rural public services and also attempt to take advantage of the unique characteristics of sparsely settled areas in achieving service integration.

Although no single service delivery system is likely to completely solve the problems of service duplication, incoherence, and discontinuity, many authorities argue for the functional organization and structural integration of separate service agencies. When service organizations are functionally interrelated, the output of one service organization becomes the input for another. To illustrate, suppose a female client wishes regular employment but does not have the requisite technical skills or access to day-care facilities for her preschool children. To achieve the goal of employment for this client, day-care facilities must first be located so the client can participate in a job training program and, following this, job placement must be secured. The output--locating appropriate day-care facilities--becomes the input to the job training program, the output of which in turn provides the input to the job placement program. The proper timing and sequencing of these various service phases is critical to an effective service outcome. If any one of these three steps fails, or occurs out of sequence, the service delivery system has failed the client.

To achieve service integration and to overcome the problems of duplication, incoherence, and discontinuity, coordination of the policies of separate public service agencies must be achieved. Reorganization of public service organizations along functional lines is recommended as a highly viable method of providing some coherence to the policies, goals, and functions of public service agencies. If functional reorganization is achieved, it will effectively destroy the autonomy of independent public service organizations. Under a functional organizational structure, each agency becomes subservient to the overall goal of providing integrated, coherent, and complete services to the client group. Such subservience extends to issues of policy, goals, joint funding, and use of personnel.

### Multi-Legged model

Kraenzil argues that the American people, via federal government subsidy, must cooperate to increase the quality and range of rural community services and at the same time lower the direct per capita cost to rural residents [8]. This premise, of federal government subsidy to rural sparsely settled areas of the nation, is basic to his suggestion that "multi-legged service centers" be organized to provide a full range of quality services to rural citizens. Using the multi-legged service center approach, within a sparsely settled geographic area, certain communities would be selected as service providing centers. For example, "Community A" might be designated the mental health retardation center, "Community B" the vocational rehabilitation and job training center, and so on. In this way selected communities within a large geographic area would be designated as functional service centers for a larger geographic area. Using the multi-legged service center approach, the functional viability of separate, but presently competing, service centers could be enhanced and maintained.

Functional specialization of rural communities is not a new suggestion, but this approach of comprehensive planning for service delivery to rural areas is innovative. Under the multi-legged service center approach, residents of rural, sparsely populated areas would still travel some distance to secure needed services. However, by encouraging selected com-communities within a sparsely settled area to specialize in the delivery of certain services, the relative inaccessibility of public services (in terms of travel, time, and money expenditures) would be decreased and the functional viability of presently declining rural communities could be enhanced. However, such a system of service delivery depends upon heavy subsidy from federal sources. Kraenzil argues that such subsidy must be provided to enhance the quality of rural life and to maintain rural population levels.

## Circuit rider approach

Criteria of economic efficiency continue as the most prominent measures employed in determining whether or not a given public service will be provided to a given geographic area. Economies of scale simply cannot be achieved in areas where the population base is small and geographically dispersed. For example, in a comparative study of six counties in the Northern Great Plains, none of the individual communities studied had populations of sufficient size to economically support comprehensive, quality, public service systems [11, p. 20].

As long as the criteria of economic efficiency are employed, specialized public services must continue to be delivered on a regional basis. For the benefit of clients needing these regional services, a regional centralized service complex is suggested, having a service counseling staff capable of providing comprehensive service counseling. This service complex could provide not only information and service referral, but also space where circuit riding regional specialists could meet with local clients. Furthermore, in areas having several small population centers, the service counselors could ride circuit on a regular basis to smaller towns. This pattern of service delivery is presently available in some communities in the Northern Great Plains, particularly for provision of mental health, rehabilitation, and mental retardation services.

Integration of the services of circuit riders with other nongovernmental or voluntary services available in smaller local communities would also enhance service integration and result in greater effectiveness of existing public services. Although the circuit rider approach is presently utilized in many rural, sparsely populated areas, often times there is a failure to integrate the specialized services of the circuit rider with the normal day-to-day social services provided by local governmental and voluntary associations. To be optimally effective, greater integration of these various services is recommended.

## Technological model

> Not long ago, as representatives of several human service agencies in the Chattanooga area were meeting, the discussion turned to a woman with grown children who had moved from agency to agency most of her adult life. No agency had ever recommended her for physical examination. One was promptly ordered. The results indicated the woman was suffering minor brain damage that could be effectively treated with medicine. Thus, after the woman spent 20 years as a dependent welfare client, we found that she only required a small amount of medication each day to enjoy a normal, productive existence. Unfortunately, she is representative of the literally millions of people nationwide with real needs who are frequently swapped from one agency to another in our cities for treatment of their crises, much as Abraham of old wandered through the land [15].

To reduce, and hopefully eliminate, the repeated failures of urban service agencies to effectively diagnose and provided needed client services, as illustrated in the above example, computerized systems have been developed to coordinate and combine the services of a variety of public service agencies. However, the application of computer technology to rural, sparsely settled areas has been more recent. Potentially, the application of computer technology to service delivery can overcome problems of fragmented authority, uncoordinated planning, lack of communication, inadequate and(or) duplicate record-keeping, and unclear priorities among the variety of diverse service providers in any community setting. Computer technology could appropriately and successfully be applied to improve the range and quality of rural public services by combining supportive services such as outreach, recruitment, intake, assessment, referral, follow-up, finance, and even transportation.

The absence of medical specialists in rural, sparsely settled areas is particularly severe. Use of computer technology and two-way closed circuit television systems could readily link rural health practitioners with the specialized services and personnel available in urban centers. Case histories could be computerized and readily transmitted to service providers in rural or urban regions as their clients move from one location to another. In special problem cases, relatively isolated service providers would have quick and ready access to consult with specialists in distant urban centers. Obviously, the utilization of such sophisticated technology would be quite costly. However, the quality and range of rural public services would be vastly improved and more effective outcomes achieved. Although immediate financial costs would be high, long-run human resource savings would far outweigh the short-run economic inefficiencies.

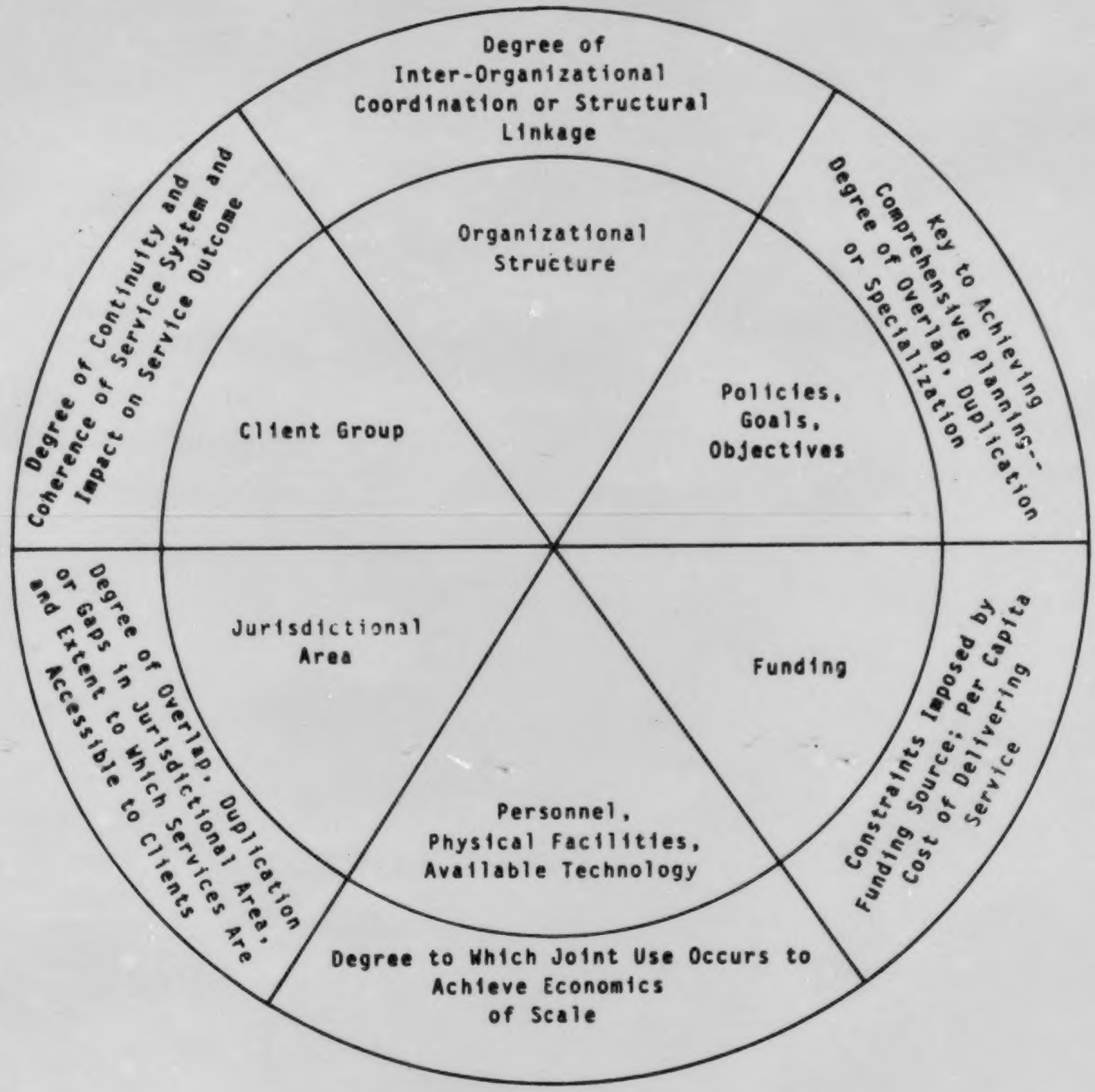
Choosing the best model

No one service integration model will adequately solve the diverse and multiple problems of coordinated and comprehensive service delivery. For example, one might determine that the "multi-legged service center" approach is most suited to a given rural area, but that elements of the "technological model" or the "circuit rider model" would be worthwhile supplements.

In considering which model might appropriately be applied to a given situation, the criteria of service adequacy outlined earlier could be applied to a given situation to determine the shortcomings and strengths of the public service delivery arrangement. To illustrate, Figure 7.2 depicts six discreet elements of any public service system.

One would want to examine in detail the manner in which the organization is structured and assess the extent to which interorganizational coordination or structural linkages have been developed among and between other area service providers. If linkages have not been developed, one would want to determine why. Perhaps a historical pattern of interagency jealousies has developed which effectively precludes cooperative

Figure 7.2. Elements of public service systems.


Degree of Inter-Organizational Coordination or Structural Linkage
Organizational Structure
Key to Achieving Comprehensive Planning--Degree of Overlap, Duplication or Specialization
Policies, Goals, Objectives
Degree of Continuity and Coherence of Service System and Impact on Service Outcome
Client Group
Jurisdictional Area
Funding
Degree of Overlap, Duplication or Gaps in Jurisdictional Area, and Extent to Which Services Are Accessible to Clients
Constraints Imposed by Funding Source; Per Capita Cost of Delivering Service
Personnel, Physical Facilities, Available Technology
Degree to Which Joint Use Occurs to Achieve Economics of Scale

planning. Or perhaps a desire to maintain single-agency independence and autonomy has interfered with efforts to integrate services. Or more simply, perhaps no authority has assumed the leadership necessary for the serious consideration of service integration. One would therefore want to identify the reasons for, and obstacles to, structural integration of service organizations.

Analysis of the policies, goals, and objectives of all local service agencies is a prerequisite to achieving coordinated, comprehensive service planning. When policies and goals overlap or where duplication exists, one would want to assess the extent to which functional specialization might lead to greater efficiency and effectiveness of service delivery. Often, funding agencies impose constraints upon service providers. For example, the policies and goals of the service agency may be carefully stipulated and controlled by the funding agency. Knowledge of these built-in structural constraints is needed to realistically plan service integration systems.

Knowledge of the per capita cost of providing the service is important, particularly to social planners concerned with the "efficiency" aspects of service delivery. Per capita costs may be reduced by the joint use of service personnel, physical facilities, and expensive service technology (i.e., two-way, closed-circuit television and computer data processing systems). Therefore, one would want to assess the extent to which joint use of these common resources might be facilitated.

The jurisdictional areas of related service agencies must be carefully reviewed to determine where overlaps as well as gaps in jurisdictions occur. Some service areas may be so large geographically, or some locations within the jurisdiction so isolated, that potential clients do not have access to the service agency. In such cases the "circuit rider approach" to service delivery may enhance accessibility and effectively reduce geographic barriers to service entry.

Finally, one would want to carefully evaluate the degree of continuity and coherence of the service delivery system. When different service functions are pursued by separate service agencies without any relationship to one another, incoherence results. Likewise, discontinuity in service delivery will result when agencies fail to provide component services necessary to achieve desired service outcomes. Analysis of case histories of service clients would be useful in this respect, keeping in mind that the final evaluative criterion is the extent to which the services provided result in the desired service outcome.

The thesis of this chapter has been that the effectiveness with which service delivery arrangements achieve desired service outcomes is a more important evaluative measure than the economic efficiencies with which services can be delivered. However, in attempting to select the "best" service integration model, public service providers will wish to use both measures of efficiency and of effectiveness. The goal of any public service integration effort is to achieve and enforce structural relationships or linkages among and between diverse service agencies so that positive service outcomes can be achieved. This is especially so in rural, sparsely settled areas of the nation where the "social costs of space" make it even more difficult to efficiently deliver public services in an effective manner.

## REFERENCES

1. Annual report: Kellogg Extension Education Project (KEEP). 1973. Bozeman: Montana State University Coop. Ext. Serv., pp. 1-3.

2. Barth, Ernest A.T. 1961. Community influence systems: Structure and change. Social Forces 40(Oct.):58-63.

3. Borchert, John R., and Russell B. Adams. 1963. Trade centers and trade areas of the Upper Midwest. Minneapolis, Minn.: Upper Midwest Economic Study, Urban Rpt. No. 3, Sept.

4. Dakin, Ralph E. 1962. Variations in power structures and organizing efficiency: A comparative study of farm towns. Sociological Quarterly (3, July):228-250.

5. Erickson, Eugene C. 1974. Consequences for leadership and participation. Communities left behind: Alternatives for development. Ames: Iowa State University Press, North Central Regional Center for Rural Development.

6. Hodge, George. 1966. Do villages grow? Some perspectives and predictions. Rural Sociology 31:183-196.

7. Kraenzil, Carl F. 1956. Great Plains in transition, The. Norman: University of Oklahoma Press, pp. 285-288.

8. _______. 1973. Social cost of space, The. Paper presented at the Fall meeting, Western Social Science Advisory Committee, Reno, Nevada, Oct.

9. _______, and Frances H. MacDonald. 1971. Follow-up of patients discharged from Warm Springs Hospital to select Montana counties. Bozeman: Montana State University Agr. Exp. Sta. Bul. No. 656.

10. Nesmith, Dwight A. 1963. The small rural town. Yearbook of agriculture. Washington, D.C.: U.S. Department of Agriculture, pp. 177-184.

11. Patterson, Donald, and Anne S. Williams. 1974. Social and municipal service needs in six counties where major coal development is anticipated. Bozeman: Montana State University, Center for Interdisciplinary Studies, Progress Report.

12. Payne, Ray. 1963. Leadership and perceptions of change in a village confronted with urbanism. Social Forces 41(March):269.

13. Simon, William, and John H. Gagnon. 1967. The decline and fall of the small town. Trans-Action, pp. 42-51.

14. Vidich, Arthur J., and Joseph Bensman. 1958. Small town in mass society. Princeton, N.J.: Princeton University Press, p. 103.

15. Walker, Robert Kirk. 1973. Chattanooga develops a better way through the human services maze. Nation's Cities (Feb.):8.

16. Warren, Roland L. 1963. The community in America. Chicago: Rand-McNally and Co.

17. Wilkening, E. E. 1964. Some perspectives on change in rural societies. Rural Sociology (March):1-17.

18. Williams, Anne S. 1974. A community service inventory and assessment of adequacy of community services in six Montana counties. Institute of Applied Research. Mimeo. Bozeman: Montana State University.

19. _______, James A. Ballas, and Kitty K. Dick. 1973. Citizens assess a model city program. Bozeman: Montana State University, Center for Interdisciplinary Studies.

# CHAPTER EIGHT

# The Planner as Implementer: Planning Roles

ERIC C. FREUND AND JOHN A. QUINN

ALTHOUGH PLANNING can be a powerful tool for community advancement, it can only be applied effectively when its limitations are carefully respected. The most important limitation, which is obvious but frequently neglected, is the capacity for plan implementation. However complicated the formulation of plans may be, the implementation of those plans is infinitely more difficult.

Effective goal setting depends on skillful leadership, but even more sophistication is required for putting plans into action. Implementation depends on people: realistic leaders know this and are aided by skillful planners who reduce difficulties by structuring plans that can be attained, plans that respect the limitations of local capability for implementation. Planning does not solve problems; it only provides a means for choosing a rational, coordinated approach to problems that is acceptable to the community. Planning cannot be used to effect extensive changes in cultural values; therefore, the realistic planner must accept the fact that cultural traits, like the facts of local rainfall and average temperature, place limitations on his range of choices.

During the 1960s and now in the 70s, we have witnessed considerable turmoil in our political system. Part of the controversy revolves about representative versus participatory democracy: we have witnessed majority representation and minority participation. However, majority and minority definitions often appear to be abstract and hazy, due in part to our pluralistic society. As individuals we selectively group ourselves in majority camps, and often at the same time in minority camps, the selection appearing to be based on the urgent issue of the moment.

We have also seen, as in relatively few other countries, a high degree of public education accompanied by an almost ubiquitous sophistication. A "lettered elite" has emerged: occupations are fast becoming professions and the professions regularly assess their obligations, responsibilities, and their "roles" in society.

Societal pressures and constraints assume paramount importance when one begins to review the possible roles for professionals. Planners appear to indulge in frequent self-examination. Periodically, articles in the Journal of the American Institute of Planners and other similar publications address the question, "What is the role of planning and planners in today's society?"

A role may be defined as a social position that has certain patterns of behavior associated with it. Roles are mandates on behavior; regardless of personality, individuals who occupy a role are likely to behave in approximately similar ways because of what is expected of them. In an analysis of a social setting (for instance, planners in a rural area), we should understand the influence of roles, understanding what individuals are compelled to do or are likely to do under the influence of the mandates built into the system. We also need to recognize that often there is a "role" conflict, or an identity crisis, particularly for the planner who has certain role expectations associated with the "profession" as opposed to the role expectations appropriate to the social setting within which the planner finds himself operational. In the case of the "sophisticated" city planner in an "unsophisticated" rural area he might, relative to population distribution, be representative of society as a whole, as opposed to the local rural community; perhaps in a sense, a majority versus a minority issue.

At this juncture it might be useful to examine some of the characteristics of rural areas as compared to urban areas. It could be said that they might exhibit:

1. Less sophistication.
2. More concern for basic services and facilities.
3. A preference for elected officials as opposed to appointed officials.
4. A need for "organization" to forge united fronts on issues of importance.
5. An innate suspicion of "expert" outsiders.
6. An irrationality toward decision making.

Each of these factors operates against the expectations of the professional planner in terms of his or her role, and also suggests different role possibilities. In making such an examination, it is difficult to recognize the similarity of this situation to that confronting the city planner in the central city.

Turning now from the planner to his agency, images play an increasingly important part in the relations of organizations with their environment. Individuals act in accordance with the way in which they perceive; they therefore act toward organizations on the basis of their impressions of them. Public impressions are becoming more important to an increasing number of organizations since, in our complex society, impressions gained at a distance increasingly substitute for close, direct contact; yet direct contact is the hallmark of rural local government. Thus, the more remote the planning agency, the more it sets itself apart from the typical local rural government and the less likely is its image to be positive. The planner obviously plays a crucial role here in the relationship between his agency and the local community.

## ECLECTICS

One approach to the analysis of roles is to draw parallels or to use well-known examples for comparison. It is not uncommon for planners to use the medical profession for comparative purposes. Two main divisions of the profession are well recognized: the general practitioner and the specialist.

### Rx for the Community

#### The general practitioner

The smaller the agency, the more likely it is to adopt the role of the general practitioner: a generalist who diagnoses ills, takes care of minor complaints, and calls in specialists for consultation when required.

As in the case of the country doctor, this role is on the endangered species list. Many rural county planning offices have jobs of this type available for the young, aspiring planner. However, like the intern in the "Big City," the graduating planner sees this type of employment as something to be avoided. The hours are terrible, the cultural scene just about zero, the pay isn't that great, and the long-range opportunities are not exciting.

There are, of course, other compensations which appeal to some. If one really wants to get to know his patients, their history, the "whole story," there is nothing like the G.P. role. We have also seen this kind of role evolve in the central city in the person of the advocate planner or the store front planner who has a concern for the neighborhood and the people living there, coupled with a general understanding of planning, official "red tape," and how to cut it. The problem with this kind of role is that usually the planner becomes so immersed in the details of day-to-day problems that he rarely has the opportunity to plan at longer range. He does, however, occupy a key position in the total implementation effort. If successful in his efforts, he can have a real and meaningful rapport with the people of the community and can use his influence to support good plannning proposals or to suggest appropriate alternatives. He may also serve as a vital communications link between the local community and the higher level decision makers, whereby he interprets to each what is being proposed and relays counter proposals.

More typically, the generalist in a rural area has not had any formal planning training or education but may come from a related discipline.

It will often be a "one professional" operation aided, perhaps, by a technician (or paramedic) and some clerical assistance. Such an office will have limited special capabilities but will often possess a larger reservoir of information useful in problem definition and many outside contacts useful in problem solution.

The specialist

As the planning agency expands in size, the parallel with the medical profession becomes more apparent. Two or more practitioners will be housed together for convenience and professional consultation, and larger, more formal organizations, rather like a clinic, may emerge.

There are as many specialites in the planning profession as in the medical. One has only to decide how "special" the specialty is to be. Physical planners can specialize in land use, design, natural resources, public facilities, or in one of many other areas or subdivisions of each. Even the regional planning agency, or clinic, has the equivalent of a G.P. in its diagnostic and internal medicine "specialists." However, he has close at hand many associates who spend full time on special problems.

Some parallels will be obvious: circulation=traffic, for instance; surgery=construction; plastic surgery=urban renewal; obstetrics and pediatrics=new town construction; and so on--the list is only limited by one's imagination. But what of rural areas? What kind of specialties seem more appropriate? In a typical rural area, the public facilities tend to be older--perhaps geriatrics is suggested or rural renewal might suggest plastic surgery and cardiological assistance. Certainly hematology would be involved, and perhaps psychiatry could play a part, in the guise of the community development specialist.

The specific list and the various parallels between the professions may vary, yet several important factors seem to be relevant and common to both. As the agency grows, specialization becomes possible and indeed necessary; likewise, public information and public relations become more necessary. Another important similarity between the two professions is a growing awareness of the lack of service in rural areas and the need for more attention and assistance to rural communities. It is crucial to both professions that this need be met by training individuals who will be willing to serve in these areas rather than in the city.

Increasingly, paramedics are suggested to relieve the problem of a shortage of medical staff. Perhaps the training of paraplanners should be examined to see if this might overcome the shortage of planners in rural areas. Paramedics have received intensive training courses, usually in the armed forces: intensive training could similarly be provided for paraplanners.

One final observation on the similarities between the two professions: While the medical profession is expressing deep concern for the length of time that elapses before the fledgling MD can begin practice, the planning profession does not appear to have addressed itself to this problem; indeed, it would appear that the period of training is becoming more lengthy rather than being reduced. Is this a function of professional maturity or does it represent an inability to be able to respond to the needs of the times? One can only speculate.

## CONVENTUALS

Before we examine specific roles of planners in depth, according to the specialties which form their chief occupations, it may be helpful to consider some of the possible motivations that might have induced them to enter the planning profession in the first place. In doing this, we are, of course, recognizing that there may be two influences on the planning product: the personality of the planner and the way in which he or she goes about the planning process.

Unlike many other professions where the parameters may be closely, or narrowly defined, the planning profession is alluringly interdisciplinary in nature, offering an almost infinite number of variations to the would-be practitioner. These variations may range from elements that are almost wholly physically oriented (exemplified by specialties such as transportation planning, urban design, or environmental planning), to those that are mainly socially oriented (such as health services delivery systems planning or the social aspects of the provision for housing). The so-called "advocate planning" for minority groups, which would otherwise remain unrepresented might also fall under this latter category.

Between the groups involved in these specialties that occupy opposite ends of the planning spectrum falls a wide variety of types of professional involvement and consequently an equally wide variety of personalities, each of which is attracted by some facet of the selected speciality. Permeating the whole profession is the siren lure of Utopia, for one of the constant goals of planning programs is some expression of the philosophy that the world, or at least the community involved, should be made a better place in which to live and that this can be achieved through the planning process. There is no doubt that this gives the profession a certain "p'zazz" which has a particular appeal to some of idealistic temperament, but we must not assume that all planners are cast in this mold, for many may regard planning as just one of many alternative professions open to their talents and may make a final selection on the basis of its interdisciplinary nature, or of its potential as one of the newer professions still in a process of evolution.

For those who we have called the "The Conventuals," planning has a special appeal because it offers them an opportunity to release the pent-up energy of deeply seated convictions which are sometimes of a social, sometimes of an almost religious, nature.

Among those attracted would undoubtedly be found many with a highly developed sense of social justice. These might range from the young idealist, anxious to improve the world around him or her (for the profession is attracting increasing numbers of women today), to the social worker who, being frustrated by the difficulties attending the improvement of merely one family unit, sees in the planning profession an opportunity for achieving improvement en masse.

We may also encounter others who might put themselves in this general category. They might range from those that think of themselves as guardians of "the public interest" (which interest they interpret and define) to those who set themselves up as models of moral propriety and exhort the public to follow policies which they consider appropriate for the community. From time to time we may also meet the "Philosopher-King" who, confident in his own infallibility and in his particular philosophy regarding the direction which the community should take in the future, attempts to persuade the community to his way of thinking.

Sometimes philosophy may wander almost into the realms of mysticism whereby the planner may feel that he knows instinctively what is the best road to follow in any given circumstance. This may develop into a cult where several of like minds may meet together to discuss solutions to the problems of humanity or, on the more modest scale, to the problems of their communities. Where there are sufficient adherents to the cult, it may bloom into a group which, in due fullness of time, may become a professional society to which some members will adhere with almost monastic fervour. There may yet be other members of the planning fraternity who would claim to be pragmatists, rejecting philosophy and cultism, and not yet ready to accept the planning function as a science, who would claim to practice an art form, taking to themselves a special expertise in "the art of planning."

Now, having dissected some of the personalities to be found in the planning field (and, we suspect, in many other professional fields), let us proceed to an examination of various types of planners as identified by their specialties or by the way in which they proceed to carry out the planning function.

## Traditionals

### The technician

Of all types of planners, the technician planner is rightfully mentioned first for he is the salt of earth, the indispensable ingredient in any planning organization. He represents the pragmatist operating in a specialty, and as planning is concerned with finding the best way of producing required results, a firm foundation of facts and the arrangement of such facts in a useful order is invaluable to the whole planning process. This is the province of the technical planner.

The technical planner may operate in a variety of specialized areas within the planning function. He may be a demographer examining past population trends and projecting these for a specific number of years into the future. Without knowledge of the clientele to be served in that future, both in terms of numbers, ages, and sex, it would not be possible to plan for their requirements. He may be an economist, estimating the way in which, based on trends, the community may be expected to earn its keep in the future, and looking at new directions that may have to be taken in the economy to assure this. He may be a land use planner engaged in estimating the amount of land required in the future, its use, and its location, necessary to accommodate the population and the economic activity forecast by others. He also might be a transportation specialist estimating the road locations and dimensions required in the future to service the anticipated population in its use of land in the predicted manner. He should also be aware of the effect on the community of the transportation proposals he makes and include this in the report he prepares for those who are to make policy decisions.

There are many other types of technicians in addition to those mentioned above, the work that they do being merely a means--howbeit an indispensable means--to the end of formulating a viable and acceptable plan. They carry out the basic research necessary in order to provide the firm data foundation required in formulation of the plan, applying this to their own specialities. The policy makers are thus provided with all the facts required by them to make decisions.

The increasing complexity of modern life demands detailed knowledge of many subjects relating to the area for which a plan is to be formulated. These details may have to be displayed in a very specific manner, and in recent years accurate quantification, where possible, has become an absolute necessity, particularly in large communities, metropolitan areas, and regions. The need for such quantification and an ability to manipulate large quantities of data, has given rise to a new type of technician in the planning organization. He is the data management specialist who may range in ability from a mere machine operator to a computer programmer capable of preparing programs for the execution of special tasks required by the type of planning being carried out by the planning agency. A few years ago such a specialist did not exist; now, in many agencies, the data management specialist is an indispensable member of the team.

The technician is, indeed, the pragmatist in his specialty, this pragmatism extending to estimates of the reliability of the data he provides for the present and future. However, production of accurate data does not produce a plan directly because it must be weighed and assessed with other factors before firm decisions may be made. It may be said, therefore, that those who are capable of making accurate decisions are *really* the pragmatists, for they have to take *all* factors into account in predicting what will *really* happen in th[illegible]e rather that what is *supposed* to happen in each of the spheres, which is the province of the technician.

In the transformation of the work of the technicians into a document that may be of maximum use to the policy makers, the "Administrator-Manager," more familiarly known as the Planning Director or Executive Director, is an indispensable catalyst whose role we will next examine.

### The administrator-manager

To the staff of the planning unit, the administrator-manager is "the Boss" or, less coloquially when referring to him publicly, "the Director" or "the Executive Director." To the public, the director is identified strongly with the planning department or the planning commission to the extent that to some he *is* the department or the commission. This is so because he is very visible, is often quoted in the press, and appears not infrequently on television or in person at planning commissions and other meetings. To the planning commission with its own staff, the director is the one they look to for information when it is wanted and in the form it is wanted. They also expect him to keep the official planning machinery in finely tuned and efficient order and in consonance with the standards to which they adhere. In cases where the planning staff is employed directly by a unit of local government, that unit, through its chief executive, will have similar expectations of the director to those of the planning commission. In addition, the president of a village, the mayor of a city, or the chairman of the county board may regard the director, or the planning function in general, as a useful safety valve for releasing the kinds of political pressures that are generated by land use policy and control porblems. These "hot potatoes" may be switched to the planning function "for study and recommendation" and thus provide the chief executive with a breathing space in which a solution can be formulated and in which passions may cool and pressures subside.

The director thus plays several roles, in each of which technical competence and personality must be appropriate for optimum impact. He must be a good staff administrator capable of choosing a good technical and clerical team and of maintaining its morale. He must be able to give technical leadership in order to direct required projects both in content and quality, and he must also have a "feel" for the way in which a report should be presented to his superiors for maximum impact.

In addition, the director should have a lively appreciation of the need for good public relations which should permeate all his activities. This infers an understanding of the news media and an appropriate relationship whereby the media will have a reliable source of information and the planning agency will have an outlet for news which it wishes to be released to the public at specific times.

Closely allied to a good sense of public relations is an instinctive sense for what is politically feasible within the milieu in which the planning function operates. This will often suggest both the content of a report (or a suggested course of action) and the way in which it is presented. To this extent, the director becomes a politician, and there is no doubt that some of the most successful planning directors have been those with an understanding of the political fields in which they operated. The extent to which a planning administrator should become involved in politics is a matter of opinion which we will discuss later. For the moment we will assume that involvement only extends to an understanding and a familiarity with the local political scene, not to partisan involvement in its operation.

One final function that the planning director performs is concerned with obtaining outside funds, particularly from the federal government. He should thus set up within his organization an intelligence system which keeps him well informed on the types of funds available and on eligibility requirements. He should also acquire some facility in the technique of applying for funds, a technique which "the Grantsman," next to be discussed has developed to a fine art.

It can be seen from this short discussion that the administrator-manager, or planning director, has to be a person with technical, managerial, and political skills. These abilities have to be well supplemented by personal qualities which enable him or her to operate successfully in what is frequently a politically sensitive environment. The ability to operate efficiently under both physical and political pressure and a willingness to attend attenuated meetings in evening hours are hallmarks of the successful planning director. They are also the hallmarks of success for executives in many other fields of endeavor.

## The New Breed

### The grantsman

The role of the grantsman has developed over the years in direct proportion to the number of grants available, particularly from the federal government but also including some of the large foundations. As we have mentioned, the planning executive must have something of the grantsman in him, for he will be well aware of the need to obtain funding for technical studies and for carrying on a required planning function which may be beyond the ability of his local government unit to support. However, the busy planning executive has other duties to perform, and in a small agency there may not exist a need for a larger fund-raising function.

By contrast, in the large agency there may be many functions and projects which could, with advantage, be undertaken for which federal funds are available and for which the agency may be eligible. In such a case a staff member could spend a considerable amount of time on searching for grants and in applying for them. In some cases the support to be gained might well justify the maintenance of a staff member in Washington, close to the action center, so that the nature of fund availability and the way in which application should be made could be known at the earliest opportunity.

The grantsman may sometimes be a planning technician, but he is really more akin to the professional lobbyist or politician. He is well aware of the kind of projects in which his agency would be interested, and of their eligibility. He will have some sense of the expertise available within the agency and of the cost factors associated with it; he will also be aware of the allowable costs authorized in the federal or other available program. All of this familiarity with the essential subject matter required to enter into a grant application format enables the grantsman to put together grant "packages" with facility. If a grantsman also has professional skills as a planner, he may obviously vary his activities in accordance with the overall availability of grant funds, reverting to a purely technical role when and if programs decline. If a grantsman has no other role in an agency, then his perpetuation as a staff member will depend on his ability to cover his salary with the amount of grant monies received. The availability of grants at central level gave rise to the grantsman; the introduction of revenue sharing may well be the forerunner of his decline as a separate breed of professional within the planning function.

### The advocate

Planners have always been advocates, defending or espousing causes by arguments contained in the reports they prepare and in the advice they give to government. However, they have traditionally worked for various levels of established government or for those clients that could afford to pay for their services as consultants.

As a result of the social turmoil and awakening of social conscience of the 1960s, some planners who were concerned with social welfare found themselves involved as citizens and often as protagonists against local government. This type of involvement became known as advocacy planning, and those that practiced it were known as "advocate planners." As noted in one planning reference:

> The role of advocacy planning...is based on the thesis that not all city planning proposals must be developed by a public agency and its consultants; that citizens holding special sets of values about community development might call upon the assistance of a professional planner to prepare a plan advocating their views. The essence of advocacy planning is the encouragement of organization on the part of those people who are most often the objects of planning activities--that is, those most often "planned for" [1].

The greatest thrust of advocacy planning has been on behalf of the underprivileged who historically have been apathetic, uninformed, and possessed by a sense of powerlessness. Advocate planning groups have been established in numerous areas across the country, their numbers strongly augmented by young university students in various professional programs. A national planning organization, Planners for Equal Opportunity, was created in 1964 to provide a rallying point and information exchange for those involved in this special area of concern.

Many advocate planners working to assist low-income neighborhoods frequently did so without pay or at very low salaries, sometimes provided with foundation support. The survival of such activity, worthy though it may be, depends on whether resources can be found to support professionals who work for indigent clients. An activity that is supported by young philanthropists cannot be expected to weather the attrition of novelty and changing times. To survive, the foundation laid in the 1960s must be supported in a reliable manner, perhaps in the way that legal aid is now provided for those that cannot afford to pay. In addition, legislation relating to planning activity must provide that affected groups are to be represented professionally so that the community may have the benefit of their point of view. Only in this way may participatory democracy be assured.

## The scholar

The scholar-planner is a phenomenon that has been with us a long time. It might be argued that some of the early philosophers and scholars, such as Plato and Sir Thomas More, were really planners in disguise when they were proposing their Utiopian communities, and many others could be classified in like manner from the famous to the more humble.

No doubt he was around in the days when Daniel Burnham was proposing his plans for Chicago and was probably advocating these plans, or making suggestions for their improvement, from the remote reaches of his university study. In those days he would probably have been a member of one of the design professions, suggesting various measures to achieve "the

City Beautiful" in academic isolation, far removed from the fields of action where practitioners battled against odds to turn comparatively modest plans into reality.

The contemporary scholar-planner is a much more complex individual, for he may come from a variety of backgrounds. He is, however, often characterized by profuse writing or lecturing, sometimes coupled with marked absence of practical experience or achievement in the field. George Bernard Shaw may have had him in mind when he noted that, "He who can, does. He who cannot, teaches." But we would, in all fairness, observe that this comes about partly because many who teach are drawn from the ranks of former students who progress steadily from the baccalaureate to the master's degree and then on to the doctorate without being constrained in any way to obtain practical experience. This might not be inappropriate in many theoretical fields, but it would seem a doubtful route to follow in a professional field. The profession may, hope[illegible] correct this anomaly some time in the future so that any possibility of Shavian wit being true will not affect generations of planning students adversely. We might also note that some people are "thinkers" rather than "doers," and a strong ability to perform both these functions adequately, together with an ability to glide gently from academia into professional practice and back again with frequency, is not given to many.

The writings of such scholar-planners appear in appropriate referred professional journals, in books, and in conference proceedings. Through them the writers often become well known and achieve an academic reputation in their field. However, unless they have considerable professional experience which makes their ideas capable of effective implementation, the impact of their work on the solution of day-to-day problems tends to be minimal, for application requires a "middleman." He is the practicing planner who takes hold of some of the scholar's ideas, puts them into a form that can be implemented, and tries them out. Thus, theory is transformed into the practical solution of a community problem.

There are those who hold that scholar-planners are motivated by an urge for greater knowledge as to how to plan better, and that they are the direct builders of the discipline of planning, whereas practicing planners apply what is already known. The scholar-planner also teaches students in such a way that they may be able to deal with future planning issues not yet being dealt with in professional practice. This may be true, but it cannot be denied that some solid practice experience might well enable the scholar to anticipate future problems and solutions in a much more pragmatic manner, thus making implementation more immediate.

Not all scholar-planners are to be found in universities, of course, for some of those who, for one reason or another, fail to find a place within ivy walls may be found in the research departments of large planning agencies, or in similar departments, disguised as technicians and hiding behind reams of computer printouts or copies of current and past research reports.

Such scholars are not lost completely to the educational field, however, for they often keep in touch with their nearest universities and from time to time sally forth to do battle in the seminar room or lecture hall, passing on to neophyte planners the benefit of their observations. They thus perform a most valuable function, not only in their agencies but also in adding depth to the academic planning courses fortunate enough to obtain their services.

These scholars sometimes find their way, later, into universities, where they then have the opportunity of committing some of their ideas to paper. They join the ranks of those academics who have had experience in professional practice, often becoming some of the most effective teachers of future planners and the authors of books which find front places on the shelves of planning agency libraries to be used as reference books on a day-to-day basis.

### The politico

In discussing the role of the administrator-manager, it was pointed out that, although he should have an understanding of political environment within which his activities took place, this did not necessarily mean that he himself should become politically active. This is in keeping with the philosophy that the planner should be concerned with the determination of means and not ends. It follows that he should make every attempt to obtain a definition of required goals and objectives from his client, be it government body or private organization, and then structure the planning process to achieve those goals and objectives.

Sometimes the planner overlooks the necessity of ascertaining his client's goals and objectives and formulates these himself. He is then surprised when the resultant plans are rejected. This may happen at the private level or, more often within government, at the political level, for the politician considers that the formulation of policy--the goals and objectives--lies within his province, and he will not readily yield this power.

Planners who are in charge of efficient operations for gathering and manipulating data and employing sophisticated analytical techniques, computers, and other intelligence apparatus can have considerable influence on political leaders who rely more and more on scientific methods of anaysis rather than on the intuition of yesteryear. The planner may thus acquire political power vicariously.

Perhaps the Planner Politico is born at this juncture, but he is surely in transition when he concentrates much more on the ends than on the means. He emerges clearly, and is seen to be walking the political road, when he becomes a political activist and seeks to form a constituency of his own to achieve the ends he has proposed in the plans he has prepared.

## CONCLUSION

### The Rural-Urban Dichotomy

We often see the term "dichotomy" used these days in comparing conditions in rural areas with those in urban areas. If we are to assume that the term has the same definition as in logic, it is implied that there is a sharp difference between the two, and that conditions are contradictive.

At first we might be inclined to disagree with this suggestion, for have we not heard of the increased standard of living in rural areas brought about by mechanization, improved communication systems, and the ready availability of electrical power? Have we not heard of the increasing homogenization of the rural population exemplified by the farmer who works part-time in the city, or the city dweller who commutes to the farm to work? As the rural area has become more sophisticated, as the standard of living has increased, and as the farming industry has become more mechanized, country depends more and more on town. From time immemorial rural and urban areas have depended on one another for food and services, but interdependence has never been so complete as now. Thus one would expect a leveling out of differences and a drifting away from any dichotomy that may have existed in the past.

Differences still exist, however, in philosophy--although traditional distinctions between farm and nonfarm have weakened considerably--in environment, and in the level of public services available. Thus the term "dichotomy" may still not be out of place.

Unlike urban government, rural government is still based largely on the principle of participatory democracy, little-changed over the last hundred years when life was still lived at a scale whose compass could be understood by the individual. Problems were largely of local dimension and could be dealt with adequately by those with long local experience. Contemporary problems often have no parallel in the past and may well have their origins far removed from local boundaries. They require a regional perspective and a nonparochial outlook for their solution. Local government has responded to increasing pressures upon it in various ways, but basically the townships have retained their old responsibilities while counties have "taken up the slack" by adding new committees or officials to handle new kinds of functions. Any problem falling between two or more jurisdictions has often been solved temporarily by the creation of a "special district," substituting an ad hoc solution for a permanent one, merely adding to governmental complexity.

County government has traditionally served as a general purpose entity. It has been responsible for building and maintaining legal records of land ownership, mortgages, tax records, and statistics. In some states the county collects property and other taxes and makes disbursements on behalf of the state. Counties administer rural schools, maintain rural cemeteries, often deal with boundary disputes, and provide a seat for rural law enforcement, judicial action, and the administration of elections. They also deal with public health, including mental health in some cases; housing; sometimes construction and maintenance of airports; parks; sanitary landfills; and sewage treatment plants. In addition they provide an administrative center for federal, state, and local welfare and other programs, and increasingly in recent years, for regional planning activities. These are often related to a myriad of state and federal programs for which the county provides the best--perhaps the only--coordinating mechanism.

The problems arising through having to deal with all these responsibilities in increasingly complex circumstances, with an organization structured for conditions a century ago, need no elaboration. To compound these problems, an increasingly sophisticated population demands an ever higher level of public services, while reaaportionment now results in a continuing shift of power and influence from the rural to the urban parts of local government. This may not be inappropriate as far as dealing with pressing urban problems is concerned, but it certainly does not aid in the solution of increasing rural problems.

Now that we have looked at the contemporary situation and problems of rural government, what are the implications for the planning agency and for the planner that works in this environment? First, we have noted that there has been a historical closeness between local rural government and the people, coupled with considerable participation in decision making. This suggests that the planning agency should be very visible and understandable to the public and very responsive to its needs which, in many ways, will differ from the needs of the dense urban area. While the principles of planning will remain broadly the same in the rural and the urban area, this planning will be carried out, generally, for a clientele that is much more conservative and spread out over a much wider area. Because of the lower density, services will be more expensive and difficult to provide and there probably will be less money available than in the urban area. This suggests that the planning agency will be smaller in the rural area and supported by less funds than in urban areas.

The planner in such an agency will typically be expected to be much more of a generalist than a specialist, to be much more gregarious than his urban counterpart, and to be paid at a lower level. He will also be expected to keep abreast of all federal and state assistance programs that can benefit the area of his responsibility, and he should possess a regional perspecitve while maintaining local loyalties and confidence. Due to the limitations placed upon his office capabilities through lack of funds, he will be wise to cultivate operational linkages with professional agencies at both state and regional levels while maintaining a distinctly local flavor in the proposals he makes to the policy makers to whom he responds. As has been noted previously, the planner who is attracted to the rural area may not have had any formal training in the specialized planning area. He may come from a related discipline, or may be a young planning professional "on his way up," both types of planner benefitting from the varied experience and exposure available in this environment.

Planners with any of the many types of personalities that have been discussed heretofore could find themselves in a rural situation; some, of course, might be expected to have a longer incumbency than others. Two qualities should undoubtedly be possessed, in addition to professional competence: first, the planner should be able to relate well to those with whom he comes into contact, thus fostering a spirit of participation; second, he should have a strong sense of practicality and an ability to marshall all available resources to solve the needs of his area of jurisdiction.

As a postscript we might add that in using the term "dichotomy" we accept the existence of but two entities: rural and urban. This may, in many cases, be unrealistic, for we ignore completely the phenomenon of the twentieth century--suburbia--which now reaches from the outskirts of the city to merge into the countryside, with some friction, at what has often been called "the rural-urban fringe." Suburbia is sufficiently different from both rural and urban areas to merit separate classification;

thus it may be more logical to talk of the "rural-suburban-urban trichotomy" than of the "rural-urban dichotomy."

The suburbanite will be much more sophisticated in his demands. The area in which he lives will often have a relatively high population density and will have been developed in contemporary times where all services will have been installed in consonance with the requirements of modern building, housing, and other applicable codes. He is not so much concerned with basic services, for he has these already, but will probably be pressing for improvements in such items as recreational facilities, for example, and will express concern for the maintenance of environmental quality and community aesthetics. Typically, his level of education will be relatively high and his income sufficient to support many of the tax demands which his sophisticated requirements may generate.

The planning operation in such an area will probably be larger than its rural counterpart and will likely be funded at a much higher level. It will probably contain more specialists than generalists and will have to possess a sophistication to match that of the inhabitants. On the other hand, it will usually be responding to a representative government situation rather than to the intense local participation often obtained in the rural area, and consequently can operate in a rather more "remote" way. Because of the less conservative attitude which may be expected in suburban areas, there may be more room for experimentation in the planning program than is the case in the typical rural area.

Thus the planner working in the suburban area will generally have more latitude in his outlook, behavior, and expectations than his counterpart in the rural area. There may therefore be room for many more of the personality types that we have identified, for these will merely have to work together congenially within the confines of the planning office. They will not be forced to operate at close quarters with the public as in the rural office, where personality traits may assume a major importance. The operation of the office as a whole and its corporate image is much more important in the suburban area than the behavior of its members--the director excepted, for he is in the public eye in both circumstances.

## Overview

In the past the efforts of units of local government tended to be isolated and independent of each other, with little interagency impact or coordination. In today's complex life, there has to be a greater general dependency, cooperation, and coordination of effort. New actors have appeared upon the scene, summoned to help deal with the complexities; among these the planner features prominently.

In this chapter we have attempted to describe the various roles that the planner might play, both generally and in the rural area. However unconventional our observations may seem, it is hoped that they may be helpful in attaining a better understanding of the planner and his activities. We have attempted to portray him not only as a professional, but also as a person, subject to the personality traits and frailties which we all possess.

In recent years we have seen emerge a new emphasis on "Rural Development" and a nationwide concern for the protection of resources, for appropriate population distribution, and for the quality of life. While we are a highly urbanized and industrialized nation, the rural areas play a vital role in the overall strength and vitality of our society to which the activities of the planner in rural development will undoubtedly make a significant contribution.

## REFERENCES

1. Goodman, W.I., and Eric C. Freund. 1968. Principles and practice of urban planning. Washington, D.C.: International City Management Association, p. 308.

## CHAPTER NINE

# Costs and Benefit of Alternative Strategies for Interagency Coordination

DAVID L. ROGERS

PRESSURES to improve the quality of life are developing among residents in both rural and urban America. In rural areas, particularly, the need to deliver a wide range of services at reasonable cost continues to mount as the population shifts to urban areas, and smaller numbers of people, who are scattered over larger areas, are left to assume the financial burden of providing necessary services. Support is difficult to provide where the level of economic activity declines or where the number of professional and technically trained persons in local government is small. As a result of these and other pressures,[1] the need to evaluate alternative strategies for organizing the delivery of public and private services is becoming increasingly important for planners and administrators.

The need to examine alternative delivery systems is intensified further as a result of increased program specialization among both public and private groups and the categorical funding activities of the federal government. The number of public and private organizations providing social and technical services has continued to increase rapidly, as has the number of interorganizational coordinating groups or agencies. Among the more familiar of the coordinating units are state central planning offices, regional planning commissions, county councils of government, community interagency councils, and informal, ad hoc coalitions of agency personnel. Coordinating units have been developed in areas of health (HEW-comprehensive health planning), law enforcement (justice-LEAA), aging (HEW-Commission on Aging), low income (OEO and HUD model cities), housing and urban development (HUD-701), resource and conservation (USDA-RC and D), labor and manpower (labor-CAMPS), and in the overall review of federal grants through state clearing house programs and A-95 reviews required by the federal Office of Management and Budget.

Attempts to coordinate service programs at the federal, state, substate, or local levels have proved ineffective in many instances [24]. Inadequacies in the quality and quantity of services appear to result more from a lack of coordination among specialized agencies than from the lack of funds or programs. Given the wide array of services available to the public and the fragmented nature of their delivery, attempts to improve delivery must of necessity focus on comprehensive planning with special emphasis on interorganizational coordination.

The ineffective organization of delivery systems may in many cases be due to a lack of information among responsible administrators about the different strategies that are available to them. In part it also may be due to a lack of systematic information about the consequences of these different coordinating strategies for interorganizational systems and for the agencies being coordinated.

The objective of this chapter is to examine the strategies that have been used to coordinate service programs and to explore the interagency system and member agency costs associated with two basic coordinating strategies. The primary prupose is to describe theory and research on interagency coordination and to present these results and their implications in a form that will prove helpful to individuals who are responsible for planning and administering public and private services. A second purpose is to stimulate and encourage additional research on interagency coordination through a review of the basic concepts and relations found in previous studies of coordination.

Throughout this chapter, the terms "interagency" and "interorganizational" are used synonymously, even though agencies may be viewed as a subset of a larger class of organizations. Agencies are conceptualized as formal organizations providing a service for a set of clients. They may be either publically or privately supported.

In the first section of this chapter, a brief overview of some of models of coordination described in the literature is presented.

The second section describes two basic strategies of coordination and examines their impact on interorganizational delivery systems and on the agency members being coordinated. The final section of the chapter summarizes the discussion and presents recommendations for planners and researchers on interagency coordination.

## TYPOLOGIES OF COORDINATION STRATEGIES

Organizational researchers have developed typologies to describe the major similarities among different types of multiorganizational systems.[2] The value of a typology is that it reduces or specifies the numerous criteria on which systems may be compared to a limited number of characteristics that all share in common. Typologies of interorganizational coordination are useful in identifying different coordinating strategies. Although there are several typologies of interorganizational coordination, the five most commonly discussed in the literature were selected because they describe the several different approaches and their distinguishing features in sufficient detail that they can be tested in empirical research. These five typologies were developed by Lindblom [8], Thompson [20], Warren [26], Mott [12], and Haas and Drabek [6]. An outline of each of these typologies appears in Appendices 9.1-5.[3] These outlines are provided to facilitate discussion about strategies of coordination in the following sections. All five of the typologies can be analyzed in terms of the distribution of power, nature of control, and organization-system goals as they relate to interorganizational relations.

## Distribution of Power

The distribution of power may be conceptualized as occurring along a continuum; at one end is "central regulation," and at the other is "mutual adjustment." The underlying dimensions are the amount and type of power that exists among and between the member units and the more inclusive coordinating system.

Multiple organization systems vary with respect to the amount of power the inclusive or larger system has over its member units and with respect to the distribution of power among the coordinated units. Power refers to the degree to which a system or organization is capable of obtaining needed resources from its environment [4; 20, p. 30]. Distribution of power reflects the relative control that either a system has over its constituent parts or that exists among a group of member units.

The distribution of power in an interagency system tends to vary with the coordination strategy used. The more centrally controlled or vertical systems, including central regulation [8], standardization [20, p. 61], unitary [26], or hierarchical [12; 6, p. 232] are characterized by a single administrative structure. Examples of central or vertically regulated interagency systems include semi-autonomous departments in city government and public commissions on higher education which regulate the activities of institutions of higher education. Member units or organizations are arranged in a hierarchical relationship to each other and to the central administrative system. All groups or units relate to each through a common, vertically controlled system. Authority and decision making activities are located at the top of the central structure and are usually exercised by an administrator and his staff [26; 12; 6, p. 232]. The power of the central system over member units is extensive. The top administrator of the coordinating system, for example, may direct member units to change their structure and programs to make them more consistent with the goals of the larger system [12]. In this model, the central coordinating system has total control and authority over the policy and procedures of the member units.

In the less vertically organized strategies (e.g., mixed, plan, federation, and delegated), there is a smaller amount of central control.

In these strategies, both the system and the member units may exercise power. The actual manner in which this is handled, however, will vary depending on the specific approach being used. Federations, for example, involve decision making at the top, but authority is still retained at the unit level. System decisions, therefore, must be ratified by member units [26]. In delegated systems, the member units delegate the right and responsibility to formulate policy to the central system. The central administrative staff creates policy and programs and does not have to go to member units for ratification [6, p. 231].

The distribution of power is quite different in the horizontal as contrasted to the vertical system. Whether the system is called "mutual adjustment," "social choice," "council," or "simple exchange," the group's actions are a result of the give and take between autonomous units. Organizational units or agencies are equal and do not assume a formal hierarchy. In a system of peers, attempts to change the balance of power among units tend to be resisted. Authority to act resides entirely at the unit level, and the more inclusive multiorganization system is often given authority for a specified period of time.

## Nature of Control

The nature of control over member agencies varies from strategies where formal authority is imposed on a multiorganizational system from outside to those strategies where informal norms and rules govern relations among a group of autonomous organizations [12]. In vertical coordination, the basis of control resides in the legitimacy of collective decisions [8].

This means that interagency decisions are accepted and become part of the program repertoire of the member organizations. Control may be achieved through the use of regulations that constrain the actions of member units into paths taken by other units in the system [20, p. 56], or it may be achieved through the distribution of conventional sanctions, such as funds, manpower, and promotion. These types of incentives are more typical of intraorganizational systems, but they also are found in the more vertically controlled interorganizational systems.

In the less centrally controlled systems, pre-established schedules or plans created in advance by the member agencies are a major factor [20, p. 56]. The plan details the tasks, which unit will perform the tasks, and when the tasks are to be performed. Control is achieved through a common agreement among the units to organize themselves in a specific way. The amount of control the system has over member agencies tends to vary with the amount of contact between the agency and the central staff [6, p. 231].

Horizontal systems, in contrast to vertical systems, must rely on a different type of control. Greater reliance is placed on informal norms and rules and on the benefits associated with cooperation. These benefits may assume either a material form (e.g., financial resources, personnel, or referrals) or a symbolic form (e.g., prestige, esteem, etc.) [12]. Benefits flowing from the joint activity tend to be equally distributed among the units or are based on their relative contribution to the joint activity.

## System Goals

A third factor used to compare the five typologies relates to the goals of the system vis-a-vis the member units. In a centrally regulated approach, the objective of each unit is to achieve the interagency system goals [8]. This objective is reflected in a number of ways. Units are organized to achieve system goals. Activities are divided among specialized units, and each performs in accordance with a central plan [26]. Member units may agree to divide the activities among themselves, or a third party may organize the activities and responsibilities of each unit. Finally, emphasis is placed on the collective or system goal rather than on narrower unit goals.

In the less vertically organized councils, goals are developed by the member units or may be developed by a central staff which is delegated the responsibility for doing so by the unit members [6, p. 231]. Each unit continues to seek its own goals in addition to the more inclusive system goals. The objectives of the coordinating system and of the unit members may be in conflict.

In horizontal systems, the differences in goals and programs that occur between units can only be resolved through negotiation and bargaining among parties with different interests. The primary basis for cooperation in the horizontal system is the achievement of each organization's goals. Therefore, some of the criteria used in system decision making is common to all units, but each organization also has criteria that are uniquely identified with its own objectives. Although the member agencies may have different goals, they still may agree to informal collaboration on a temporary basis or around a narrow scope of action [26].

## TWO STRATEGIES OF COORDINATION AND MULTIORGANIZATIONAL SYSTEMS

Knowledge about the costs and benefits of each of the different strategies of interagency coordination could be helpful in attempts to construct an approach to interorganizational coordination. Information about the costs and benefits of different strategies, however, is available for only the two polar ends of the coordination continuum: central regulation on hierarchy and mutual adjustment or peer control. Furthermore, information about the consequences of each of these strategies is fragmentary. There have been very few systematic studies of the different strategies of coordination. Most researchers have focused on differences between coordination strategies. The information which follows draws on findings from the small number of available comparative studies, from studies where only one strategy was investigated, and from other theoretical writings on interorganizational coordination.

The discussion of consequences is limited to those associated with the two models in Table 9.1, which are called "vertical" and "horizontal" coordination strategies. This limitation is necessary because of insufficient information about the consequences of the other intermediate strategies of coordination. Discussion of the two extremes should be helpful, since we usually think of coordination as involving either the voluntary cooperation of peers or the central direction of member units [21, p. 164].

Table 9.1. Coordination and their associated costs and benefits on the multiple-organization system.

| Impact on Multiple-Organization System | Coordination Strategies<br>Vertical | <br>Horizontal |
|---|---|---|
| **Processes** | | |
| Inter-unit conflict | Easier to reconcile, only limited differences among units | Difficult to reconcile, high value placed on use of different means and ends |
| Priority setting | Easier to achieve with common goals and central authority | Difficult to achieve among units with specialized interest |
| Speed of decision making | Centralized control increases speed of decision making | Bargaining and negotiation among units slows down decision making |
| **Outcomes** | | |
| Quality of decisions | Smaller number of agencies participate in decisions, but mechanisms available for dealing with controversial issues | Checks and balances among units provide error-correcting mechanism, but controversial issues avoided |
| System position on issues | Units are united on issues | Partisan interests prevent united stand on some issues |
| Resource Distribution | Decisions made at top mean less-equitable distribution of resources | Tradeoffs among units produce more equitable distribution of resources |

Although there are many ways to assess the impact of different strategies of coordination on multiorganizational systems, this chapter concentrates on two general areas. The first area involves three multiorganizational system processes-inter-unit conflict, priority setting, and speed of decision making. The second area involves three multiorganization system outcomes--quality of decisions, system position on issues, and resource distribution.

## Multiple-Organizational System Processes

### Inter-unit conflict

Lindblom's discussion of central regulation and mutual adjustment illustrates some important differences between the two strategies in terms of the amount and the interpretation of conflict [8]. Like its intra-agency counterpart, the vertical system is controlled from above, its activities are designed to achieve common ends, and conflict is viewed as dysfunctional. Because conflict tends to center on issues of authority and control, it is often defined by administrators as reflecting a breakdown in authority. Conflict often occurs, for example, when authority is delegated to subordinate units. Decentralization of authority may contribute to the development of parochical points of view and vested interests among the various subunits [12, p. 11]. Centrally regulated systems, however, do not entirely eliminate the question about control, but they do tend to reduce the frequency and intensity of questions about control. Disputes between units can be resolved by appeals to a higher (system) authority. This is a major strength of vertical authority systems and a weakness of the horizontal system, which often lacks mechanisms for adjudicating areas of dispute.

Lindblom characterizes the horizontal system as having equal power among the unit members, using unique criteria for decision making, lacking a central goal, and attempting to achieve the goals of member units [8]. In this strategy it may be more difficult to influence organizational relationships and to reconcile differences between autonomous units. The difficulty is even further complicated by the fact that organizational withdrawal is a constant threat to organizational coalitions and federations in which there is voluntary participation [11].

Differences that occur among organizational units may be viewed as legitimate and functional for a system rather than destructive of interorganizational relations [10]. Pondy argues that conflict can be functional when it causes systems to reallocate authority, resources, and responsibilities in a more equitable fashion among units [15]. One of the major functions of interorganizational conflict among service agencies is to encourage a constant reanalysis of community needs. Barth argues that, with an exchange of ideas among agencies, there is less chance for the development of an inflexible and monolithic structure of public services [2]. Horizontal systems help insure the continuation of different values. A continuation of unique values is possible where each set of values is supported by an organizational base and agencies are not merged with one another [9]. This often is not possible in more centrally controlled systems.

Priority setting

There are major differences in the relative effectiveness of the priority setting processes in vertical and horizontal systems. In the vertical system, final decisions about priorities are made at the top and tend to be accepted by lower administrative units. But in horizontal systems, priorities are determined within the member units, and these units in turn negotiate among themselves as they set system priorities [26; 8].

One factor that makes priority setting difficult in any coordinated activity is the presence of multiple goals. The vertical system can use its authority structure to choose system goals from among the several goals advanced by individual units. Once system goals are selected, the activities of each unit can be organized to achieve them. Morris points out that, in the welfare field, central planning facilitates the development of more encompassing community goals rather than a continuing focus on the narrower goals of any single organization [11]. Unlike the vertical system, horizontal systems do not have a ready-made device for ordering their goals. Furthermore, the goals of the several units may not be consistent but instead may involve areas of conflict [9].

Administrator's perceptions and preferences play a large role in priority setting. Administrators often tend to interpret what they see, what is to be done, and how to do it in terms of the ideology of their own agency's mission and in terms of the special competence of their staff [2; 19]. Administrative preferences seem to be a major force with which to contend in horizontal systems. This is especially true where the system problem (e.g., inadequate health services) might be defined by an administrator in terms of his own agency's goals (e.g., provide financial aid to low-income residents) rather than in terms of the larger system goals. When this happens, the larger community problem is likely to be defined in terms of the unique contributions of one or more organizations that participate in the system. The setting of priorities may be more difficult when there is greater freedom to negotiate about system goals.

Speed of decision making. The speed with which decisions are made tends to vary with the coordination strategy. Vertical systems may move more rapidly through the decision making process than do horizontal systems. They may have more common criteria to use in decision making; they hold common goals; and they operate with a single-authority structure. Decision making processes in horizontal systems may operate more slowly when bargaining and negotiation must occur between the units [9]. Mott found that decision making was especially slow in horizontal systems when the issues were controversial; the interagency council could act only when all the units were prepared to move on an issue [13]. Member agencies would cooperate with the council only when they felt they were receiving some benefit. Moving slowly through the negotiation process might be a positive or negative feature, depending upon those who are judging the effort. Slow movement through the decision making process might be viewed as positive in situations where the outcomes have a major impact on one sector of a community and efforts are being made to obtain all the relevant information about possible program outcomes.

## System Outcomes

### Quality of decisions

The quality of interorganizational coordinating system decisions can be examined from two perspectives: (1) the extent to which all member units participate in decisions, and (2) the range of issues covered in discussions by the coordinating system. The amount of participation by member units in a vertical system varies, as do the types of decisions in which these units are allowed to participate. When system decisions are made at the top of the administrative structure, there is apt to be only minimal horizontal communication among the agencies [20; p. 56]. The major flow of communication tends to follow vertical lines and to occur between member agencies and the central coordinating staff. Centralization of communication and authority structures may reduce the member agency's ability and potential for participation in system decision making. This is especially problematical when decisions are made by persons who are less well informed, as may occur in the vertical coordinating arrangements [13, p. 68].

The often-argued advantages of collective decision making are lost when units do not have equal power and must yield to directives from superordinate levels [3, p. 121]. Checks and balances and error-correcting mechanisms normally associated with group decision making are more characteristic of horizontal systems [9, 8, 22]. Unlike vertical systems, where ideas and commands flow from the top down, organizational coalitions and federations serve as neutral forms in which the ideas of individual agencies can be tested and modified [11].

In cases where the public interest is not clear, adjustment among member agencies may result in "better" decisions. This is more likely to occur when all of the relevant points of view are considered and decisions have been reached through negotiations among member agencies [12, p. 218]. Finally, horizontal systems may provide for a more efficient use of agency resources. Only those agencies most directly interested in an issue tend to become involved [14, p. 30]. Organizations not affected by an issue need not commit resources to system activity. This is particularly important when an agency has few resources to contribute and may realize little or no benefit from participation in the joint activity.

The second indicator of quality relates to the types of issues considered by the coordinating system. Voluntary coalitions tend to dodge important questions and focus on relatively unimportant issues. Warren characterizes horizontal systems as being inadequate for dealing with important issues [24]. He argues that where there is a conflict of interests, there must be power to enforce a selection of priorities; otherwise, the existing agency preferences will continue to prevail and weightier issues will go unattended. In Mott's study of an interagency health council, he found that the group would only consider noncontroversial topics [12]. Walton and Dutton, in a discussion of interdepartmental relationships, reported that lateral (horizontal) relationships may involve attempts to conceal and distort information which in turn, they argue, will lead to lower-quality decisions [22]. They also suggest that lateral relationships among equals may involve competition. Competition among units of equal status and power can, however, either motivate or debilitate organizational personnel. Vertical systems, on the other hand, are better prepared to deal with controversial issues, because they have the power to enforce a resolution if conflict should occur [24].

In summary, if the first indicator of quality--extent of participation--is used, the vertical system may yield lower-quality decisions. On the other hand, if the range of issues discussed is used as an indicator of quality, the horizontal system may score lower in terms of the quality of output. Those reponsible for planning interagency projects will need to weigh the advantages of each strategy when deciding which approach to emphasize.

### System position on issues

As with any monocratic system, vertical coordination implies that all the units are structured so that they work together toward a more inclusive goal. The goals, structure, and processes of each agency are designed to achieve system goals. Horizontal systems, however, are not as tightly organized nor is there a planned division of tasks among the units. If there are any system goals, they tend to be formulated in an abstract manner and provide little or no guidance to the system as a whole. Frequently, there is no change in the original set of organizational goals, and programming efforts of individual agencies remain the same in the horizontal strategy [14, p. 52]. In the absence of tangible system goals, horizontal systems may have more difficulty mobilizing unit members to take a united stand on positions. This difficulty also may arise because they lack a more centralized control structure. Furthermore, horizontal systems have been shown to be less able to resist pressures from outside forces, to be more susceptable to being played off against each other, and to be more likely to issue conflicting statements that weaken their interagency system [12]. Morris found that welfare federations he studied did not have a unified body of interest [11]. Their divergent interests had to be reconciled through negotiations among the units. Difficulties in achieving a united stand in horizontal systems may be attributed to several things, including the presence of different values, goals, and means for achieving the range of goals that exist among the units.

## Resource distribution

Centralized forms of coordination tend to be less equitable in allocating resources among member units than do horizontal forms. An equitable distribution of resources occurs where there is correspondence between inputs and rewards. When communication and power systems are hierarchically arranged, the information and influence flowing through the vertical system may be restricted and lead to errors in decisions about resource allocation. The tradeoffs that occur in horizontal systems, however, may help to improve the equitable distribution of resources in the horizontal form of coordination; he argued that this occurred because these systems will not function if benefits flow to some units but not to others [12].

Horizontal systems more closely approximate an open market arrangement. When greater emphasis is place on the market, this optimizes the distribution of resources and services [23]. In this respect the horizontal (mutual adjustment) system is viewed by Warren as being superior to the vertical, monopolistic system.

An important concern among administrators is securing the necessary resources with which to operate. Mott points out that centralized systems find it more difficult to obtain public support than do horizontal systems [12]. Part of the explanation for this observation can be attributed to the amount of support that is mobilized by the special interest groups which are associated with the different agencies. When units are required to give up some of their special programs and cooperate in a more general system, they may lose the aid of groups that previously supported their narrower programs. Hage provides additional evidence for this observation [7]. He found that requests for additional funding which made by more centralized agencies were usually denied. Agencies which had merged into a single, coordinated unit did not have a large enough base of support to draw the necessary resources from the community.

Two general conclusions can be drawn about the relations between strategies of coordination and resource allocation. First, horizontal coordination provides for a more equitable distribution of system resources among participating units. Second, the two strategies of coordination differ in their ability to secure system resources. Access to resources does not always imply greater program effectiveness, nor does it imply that better coordination will result.

## CONSEQUENCES OF TWO COORDINATION STRATEGIES FOR MEMBER AGENCIES

In vertically controlled systems, top administrators have little choice about the level and type of involvement of their agencies. But in horizontal coordination strategies that involve mixed or peer control, higher administrators have greater freedom to decide their agency's involvement. Some of the questions administrators may ask before joining a coalition or federation of organizations are likely to be: What will it cost and can our organization expect any benefits? Who is going to be in charge? Who will make important decisions? Who will get credit? Until these questions are answered fully, it will be difficult, if not impossible, to get organizations and agencies to voluntarily participate in coordinated efforts [7; 14, p. 10].

In this section, four consequences associated with each of the strategies of coordination will be discussed. Although there are many other consequences, previous research and writing was available on only these four. Table 9.2 summarizes the impact on member agencies of two different

Table 9.2. Coordination strategies and their associated costs and benefits on member agencies.

| Impact on Agencies | Coordination Strategies | |
|---|---|---|
| | Vertical | Horizontal |
| Unit autonomy | Reduced by control of central system which influences goals and operations of unit | Not measurably reduced because of voluntary nature of participation |
| Unit risk and uncertainty | High levels | Moderate to low levels |
| Level of public support | Reduced because of system's broader objectives | Not affected because specific objectives are retained |
| Resource investment | Quality and quantity are high | Moderate to low depending on form |

coordinating strategies. Each of these consequences describes the impact on the member unit or organization rather than on the multiorganization system, and each represents an often-expressed administrative concern about participating in cooperative or joint ventures. Not all joint or cooperative activities are treated as having the same consequences as often is done in discussions of coordination. How and why the different strategies of coordination have unique consequences for member units is shown in terms of organizational autonomy, risk and uncertainty, level of public support, and resource investment.

## Organizational Autonomy

Several students or organizations have noted administrators' preferences for organizational autonomy [5; 1]. Autonomy refers to the degree to which an organization has power and control with respect to its environment [16; p. 36]. It refers to the distribution of power and control within an interorganizational system and reflects an agency's ability to make decisions about its staff, products or services, operations or procedures, and other resource allocations. Students of organizations often take the view that as social systems, organizations seek to maintain themselves and to survive on terms that are favorable to their own interests [13; p. 56]. Participation in joint activities with other groups may mean some loss of control over resources and program development. But it also may mean more power relative to the large environment [14].

All of the typologies of coordination strategies focus on member autonomy as a distinguishing characteristic. In each instance, the more hierarchical systems are described as allowing the least amount of autonomy to the member agencies. Coordination has been described in terms of distribution of power among member units [8], types of constraints [20; p. 56], location of decision making and authority [26], power of the system over member units [12], and types of decisions made by member units [6; p. 230]. In each case, member agencies in the more centralized systems are described as having the least amount of control or power.

In his research on health councils, Mott argues that centralized control reduces the autonomy of the coordinated agencies [13; p. 67]. The loss of autonomy tends to reduce the amount of discretion and creativity of professional personnel in agencies. In their study of the Cleveland Rehabilitation Complex, O'Toole et al. found that agencies were afraid of being "swallowed up" by stronger agencies or by the coordinating system [14; p. 25]. To secure the cooperation of smaller agencies, the multiple organization system had to guarantee that each unit would have absolute autonomy, that each would be able to control its internal affairs, and that each unit could decide on the nature and extent of participation in the complex.

One of the best indications of the amount of administrative concern about autonomy is reflected in their preference for horizontal forms of coordination. Most coordinating mechanisms in the field of health and welfare fall somewhere in the middle of the centralized and peer group control dimension [17; 13, p. 62]. Attempts to protect an agency's autonomy are reflected further in horizontal systems where discussion topics often are restricted and only noncontroversial items are discussed. Instead of discussing topics that might threaten other agencies, discussion may be focused on issues that lie outside the field or scope of the member agencies.

Neither technological imperatives nor functional necessity are sufficient to overcome strains toward unit autonomy. Hage argues that to bring organizations together in cooperative activities, coordinators must recognize the need for autonomy and create new channels of funding that do not disturb the organization's mission and identity [7].

In summary, participation in horizontal systems tends to be less threating to agency autonomy because of the voluntary nature of participation. Furthermore, all goals and functions that guide the system are subject to approval by the agencies and must ultimately be consistent with each agency's goals. In vertical systems, on the other hand, agency autonomy is severely reduced. The multiple organization system develops the goals and directs the day-to-day operations of the member agencies.

## Unit Risk and Uncertainty

Vertical systems may mean greater risks, uncertainty, and greater investments for member organizations than do horizontal systems. Coalitions or councils, on the other hand, often are able to keep the member's investment and risk to a minimum. Here, commitment to the system is not as encompassing as that which occurs in a vertical system [7]. Coalitions may be formed to focus on only those programs that are operated jointly by two or more organizations. The new joint activity than adds to rather than subtracts from the existing programs being offered individually by the unit members. Mott found that uncertainty and risk are greater in vertical systems [13; p. 67]. In vertical systems there is a greater possibility that strong organizations may take advantage of weaker organizations. Furthermore, the system is more likely to be pressured by external interest groups that are being served by the member units, and there may be attempts to direct the system in favor of one or more of the member agencies. Surveys of administrators have shown that these are genuine concerns [7]. When the amount of authority is equal among all the units, however, there is less possibility that certain groups will lose control.

Finally, one of the risks of participating in any coordinated activity is that the weaknesses of the units may become visible in the process of exchanging information and ideas. Organizational weaknesses tend to be less visible in horizontal systems, where the amount of information flowing between agencies is lower and the type of information being exchanged may be well guarded.

### Level of Public Support for Unit

When administrators are invited to join an interagency project, they are likely to ask, Will this affect our agency's present level of support? This concern is real; nearly all organizations must look outside their own units for the necessary resources. Many service agencies rely on client systems that have specific needs to provide support and speak for them.

Mott argues that centralizing authority or developing a vertical system makes it more difficult for individual agencies to get public support [12; p. 213]. To the extent that agency programs and services are controlled either hierarchically by the agencies themselves or by a third party, this reduces the amount of control that client systems are able to exercise.

When agencies lose control over their own programs, this usually is followed by clients questioning the agency's mission and program. Furthermore, participation in interagency projects means that part of the unit's resources may be drawn from a narrow range of agency services and channeled into more comprehensive programs. This broader program may or may not continue to serve the needs of a specific client group. When the needs of a relevant client system are not met, an agency's support may in all likelihood decline.

Participation in horizontal systems, however, has not meant a loss of public support in most instances. The amount of resources invested in interagency activities by organizations tends to be small. If frequently involves information exchange or referrals, but it seldom goes beyond this level of investment [18]. The majority of unit resources often continues to be channeled into its own institutionalized services.

A final reason for administrative concern about public support in centralized systems is suggested by Hage [7]. He proposes that a single organization or system, whether old or new, does not have a sufficient power base to gain enough resources from the community. Centralized systems typically obtain resources through a single fund drive or present their needs as a single unit. Furthermore, he points out that more centralized requests for new funds are usually defeated. Units in horizontal systems, on the other hand, have the advantage of representing a series of smaller claims, each of which has an established base of support.

## Resource Investment

The pressures to meet internal agency service objectives tend to be very strong. This means that most resources are consumed in meeting these objectives, and few resources are available for interagency planning activities. Major attention tends to be given to securing resources, to problems of support, and to relations with other units and clients. Where this is the case, little time, energy, or imagination is available for participating in cooperative activities [14].

Each type of coordination involves a different amount of resource investment. These investments are reflected in the extensiveness of the quantity and quality of exchanges between units [17; 18]. The lowest amount of investment is made in ad hoc coordination (horizontal) involving information exchange, referrals, and some services. These exchanges are generally informal and may be left to practitioners. The next higher level of exchange is called "systematic case coordination" and involves interagency agreements and activities in accordance with specific rules and procedures. The third level of exchange is called "program coordination."

This form of coordination involves joint programs, mutual assistance, and modification of programs to improve alignment of system operations. Reid suggests there is a progression in the extent and value of resources exchanged as systems move from the ad hoc to program coordination [17].

In summary, O'Toole et al. point out that, the greater the involvement in interagency activities, the greater will be the potential costs and the potential rewards flowing to agencies from such activity [14; p. 11].

## SUMMARY

This chapter describes several coordinating strategies and the costs and benefits of two major strategies for multi-agency systems and for participating member agencies. Research shows that vertically controlled systems, as compared with horizontally controlled systems, can expect the following consequences: (1) reconciliation of the limited number of differences that occur among the member agencies may be easier to achieve as will common, more inclusive, goals; (2) decision making processes will tend to move more rapidly, and a smaller number of agencies may be involved in major decisions; (3) decisions can be made on controversial issues; (4) member agencies are more likely to take a united stand on system goals and means; and (5) finally there tends to be a less-equitable distribution of system resources among the member agencies.

Agencies participating in vertically controlled systems can expect lower levels of autonomy or control over their operations, higher levels of risk and uncertainty, greater demands from the interagency system to contribute their resources to the more inclusive system, and may experience reduced client support for their programs.

Horizontally organized interagency systems can expect consequences that are directly opposite in many instances to those of the vertical system: (1) they will tend to experience more conflict and may find it more difficult to reconcile differences among the units; (2) priority setting may be more difficult, and the speed with which decisions are made may be slower; (3) the range of agencies participating in decisions may be larger, and administrators may find it more difficult to consider issues that are controversial for some of the participating agencies; and (4) special interests may make it more difficult to arrive at and defend larger, more inclusive system goals, and resources tend to be divided more equitably among participating agencies.

Agencies participating in horizontally controlled interagency systems will tend to have greater autonomy, experience less risk and uncertainty, have fewer demands made on their resources, and receive similar or greater levels of support from their relevant client groups.

Two general conclusions can be drawn from the research reported in this chapter. First, central regulation or vertical control of interagency coordination may facilitates the coordination process. The process of coordination flows more smoothly where there is less conflict and where there are mechanisms for mediating the effects of conflict, where system goals are shared in common, where decisions are reached more rapidly, and where power to make decisions is concentrated at higher administrative levels (e.g., administrator and his staff). Smoothly working systems, however, may not be the most effective systems, as judged by participating agencies or client systems.

Second, peer regulation or horizontal control of interagency coordination leads to mixed results from the coordination effort. Negotiation among member agencies supplies an error-correcting mechanism and provides for a more equitable distribution of resources among the participating agencies. But it also is more difficult to identify and develop a common set of objectives among the separate agencies.

This chapter distinguishes between the consequences of coordination strategies for interagency systems and for participating agencies. This distinction is seldom made in discussions of coordination. Attention has been given more frequently to the consequences for member agencies (e.g., discussions of power, autonomy, control, risk, public support). It is important, as well, to understand the impact of different coordinating strategies on the more inclusive interagency system. Can priorities be established? Will organizations be able to make collective decisions? Can differences between units be reconciled? Will the "best" alternative be selected? Will agencies receive resources in proportion to their responsibilities? If the answer to any of these questions is "no," then the system may not be effective.

Different strategies lead to different results, and any one strategy does not provide the whole answer. There are benefits and costs associated with each of the major strategies. Choices among strategies or a combination of the elements of several strategies are based on intended outcomes, but they also are limited by the constraints extant in the system. Central regulation will be more difficult if not impossible among private agencies. On the other hand, horizontal coordination among public agencies, where administrators are responsible for their agencies' objectives, may not be adequate to overcome the centrifugal forces that keep agencies apart.

The recommendations for administrators and planners are of two types. The first are general "orienting" suggestions designed to increase administrative awareness about interagency processes. The second set contains specific recommendations about what to look for if interagency coordination needs to be improved.

1. It is important to select an appropriate coordination strategy that will optimize the benefits and minimize the costs to participating agencies. The costs and benefits of coordination will vary according to the strategy used.
2. In reviewing alternative strategies, it is important to determine whether these agencies are all private, all public, or a combination of the two. Some strategies are more appropriate when there is a combination of types.
3. Determine whether there are any structural barriers that would reduce interagency coordination. If so, explore mechanisms for eliminating these barriers.

Some specific questions that need to be asked about interagency efforts include the following:

1. What are the relevant organizations in your area that should be participating in the joint activity?
2. What is the commitment of each organization to the problem area?
3. Do these other organizations prefer to work with other groups or to work as isolated units?
4. How are the costs and benefits being distributed among the participating organizations?
5. What assumptions about interagency relations are held in your own planning unit?
6. What resources are being coordinated (e.g., finances, staff, equipment, or information), and could others be included?

The second major purpose of this chapter is to develop and identify questions that need further research. The questions presented here grew out of gaps in what has been investigated and out of problems with previous research on the topic of interagency coordination.

1. Is the amount of power equally distributed in a horizontal coordinating system? If not, what factors influence its unequal distribution?

There is very little research on the distribution of power between agencies, and yet the strategies of coordination are each represented as having a rather unique power system. We need to know more about power and how it operates in interagency contacts.

2. What are the limits associated with each coordinating strategy (e.g., number of agencies involved, types of agencies involved)?

The number and types of agencies involved in any coordinating effort are important considerations in the analysis of interagency coordination [9].

3. What are the most theoretical and empirically relevant features or characteristics for distinguishing between different strategies of coordination?

The features discussed here are limited to those for which empirical data are available. Other features may be equally important when identifying different strategies (e.g., formalization, standardization).

4. What techniques are used to control member agencies in horizontal systems; could others be more effective?

Among the more common techniques of control in horizontal systems are peer influence, prestige, and esteem. We need to know how often each of these is used and the relative success of each in securing agency inputs. We need to know whether other techniques might be more successful.

5. What strategies are the most successful when public and private agencies are involved in the coordinating system?

Most of the discussion about coordination assumes that the units are public agencies involved in intergovernmental contacts (e.g., within the same administrative unit--city, county, state or that the contacts occur between city, county, state, or federal units. Little consideration has been given to the problem of including private agencies.

6. What resources and at what level of input are administrators willing to contribute resources to interagency coordination efforts?
7. What is the best way to describe and measure the bargaining and negotiation processes that occur in interagency systems?
8. What are the consequences of different strategies for clients?
9. We need to examine coordination in a dynamic rather than a static framework. How have the interactions, contacts, and resource flows between organizations changed over time?
10. What is the impact of the social environment on interagency coordination? How does the political and economic environment influence strategy choices?

## FOOTNOTES

1. Other pressures may include scarce financial and staff resources, relations with other agencies, and relations with client groups [14].
2. This term is used throughout the paper to refer to interorganizational coordinating systems ranging from commissions to ad hoc interagency activities [6, p. 228].
3. The characteristics of each type were developed from descriptions given by each of the authors. In a few cases, however, the differentiating characteristics or how these characteristics relate to each type have been modified slightly.

## REFERENCES

1. Aiken, Michael, and Jerald Hage. 1968. Organizational interdependence and intra-organizational structure. American Sociological Review 33:312-330.
2. Barth, Earnest. 1963. The causes and consequences of interagency conflict. Sociological Inquiry 33(Winter):51-57.
3. Blau, Peter M., and W. Richard Scott. 1962. Formal organizations: A comparative approach. San Francisco: Chandler Publishing Company.
4. Emerson, Richard. 1962. Power--Dependence relations. American Sociological Review 27(Feb.):31-40.
5. Gouldner, Alvin. 1959. Reciprocity and autonomy in functional theory. In Llewellyn Gross, ed., Symposium on sociological theory. New York: Harper and Row.
6. Haas, J. Eugene, and Thomas E. Drabek. 1973. Complex organizations: A sociological perspective. New York: Macmillan Company.
7. Hage, Jerald. 1973. A proposal for a strategy for creating interdependent delivery systems to meet complex needs. Unpublished paper, Department of Sociology, University of Wisconsin, Madison.
8. Lindblom, Charles E. 1965. The intelligence of democracy. New York: The Free Press.
9. Litwak, Eugene. 1970. Towards the theory and practice of coordination between formal organizations. In William R. Rosengren and M. Lefton, eds., Organizations and clients: Essays in sociology of service.

Columbus, Ohio: Charles E. Merrill Publishing Company, pp. 137-186.

10. _______, and Lydia F. Hylton. 1962. Interorganizational analysis: A hypothesis on coordinating agencies. *Administrative Science Quarterly*, 6:395-426.

11. Morris, Robert. 1963. Basic factors in planning for the coordination of health services. *American Journal of Public Health* 53(Feb.):248-259.

12. Mott, Basil J. F. 1968. Anatomy of a coordinating council: Implications for planning. Pittsburgh: University of Pittsburgh Press.

13. _______. 1970. Coordination and interorganizational relations in health. In Paul E. White and George J. Vlasak, eds., *Interorganizational research in health: Conference proceedings*. Washington, D.C.: U.S. Department of Health, Education, and Welfare, pp. 55-69.

14. O'Toole, Richard, Anita W. O'Toole, R. G. McMillan, and M. Lefton. 1972. The Cleveland rehabilitation complex: A study of interagency coordination. Cleveland, Ohio: Vocational Guidance and Rehabilitation Services.

15. Pondy, Louis R. 1969. Varities of organizational conflict. *Administrative Science Quarterly* 14(Dec.):499-505.

16. Price, James L. 1972. *Handbook of organizational measurement*. Lexington, Mass: D.C. Health and Company.

17. Reid, William. 1965. Interagency coordination in delinquency prevention and control. In Mayer N. Zald, ed., *Social welfare institutions*. New York: John Wiley and Sons, Inc.

18. Rogers, David L. 1974. Toward a scale of interorganizational relations among public agencies. *Sociology and Social Research* 59(Oct.)61-70.

19. _______, and E. Glick. 1973. Planning for interagency cooperation in rural development. Ames, Iowa State University, Center for Agricultural and Rural Development, CARD Rep. 45.

20. Thompson, James D. 1967. Organizations in action. New York: McGraw-Hill.

21. _______. 1971. Thoughts on interorganizational relations: A conclusion. In Paul E. White and George J. Vlasak, eds., Interorganizational research on health: Conference proceedings. Washington, D.C.: U.S. Department of Health, Education, and Welfare.

22. Walton, Richard, and J. M. Dutton. 1969. The management of interdepartmental conflict: A model and review. Administrative Science Quarterly 14(March):73-84.

23. Warren, Roland L. 1970. Alternative strategies of inter-agency planning. In Paul E. White and George J. Vlasak, eds., Interorganizational research in health: Conference proceedings. Washington, D.C.: U.S. Department of Health, Education, and Welfare, pp. 114-129.

24. _______. 1972. Comprehensive planning and coordination: Some functional aspects. Unpublished paper presented at the annual meeting of the Society for the Study of Social Problems.

25. _______. 1969. Concerting of decisions as a variable in organizational interaction, The. Unpublished paper presented at the Conference on Interorganizational Decision Making, Northwestern University, Evanston, Ill.

26. _______. 1967. Interorganizational field as a focus for investigation, The. Administrative Science Quarterly 12(Dec.):396-419.

Appendix 9.1. Lindblom's coordination strategies.

| Differentiating Characteristics | Coordination Strategies[a] | |
|---|---|---|
| | Central Regulation | Mutual Adjustment |
| Distribution of power among member units | Hierarchical; the inclusive unit has control | Non-hierarchical; units are more or less equal |
| Relations among member organizations | All groups related to all others | Groups are not related to all others |
| System ends | To achieve goals of inclusive unit | To achieve goals of member units |
| Criteria used in decision making | Common to all | Some common and some criteria unique with member units |
| Inclusive decisions | Accepted without question | Subject to negotiation and bargaining |

[a] Lindblom also discusses a "mixed" strategy that includes elements of central regulation and mutual adjustment.

Source: Adapted from Lindblom [8].

Appendix 9.2. Thompson's coordination strategies.

| Differentiating Characteristics | Coordination Strategies | | |
|---|---|---|---|
| | Standardization | Plan | Mutual Adjustment |
| Source of control over member units | Rules and regulations | Schedules | Evaluation and feedback of new information |
| Frequency of decisions | Least often | Intermediate | Most often |
| Volume of communication | Minimal | Intermediate | Highest |

Source: Adapted from Thompson [20].

Appendix 9.3. Warren's coordination strategies.

| Differentiating Characteristics | Coordination Strategies | | | |
|---|---|---|---|---|
| | Unitary | Federative | Coalitional | Social Choice |
| Relation of member organizations to central goal | Units organized for achievement of central goal | Units have different goals, but some formal organization for central goals exists | Units have different goals, but informal collaboration for central goals exists | No central goals |
| Location of decision making | At top of central structure | At top of central structure, subject to ratification by member units | Among units in the absence of central structure | Within units |
| Location of authority | At top of central structure | Primarily at unit-organization level | Exclusively at unit-organization level | Exclusively at unit-organization level |
| Division of labor or activity | Units structured for division of labor within central organization | Units structured autonomously, may agree to division of labor, which may affect their structure | Units structured autonomously, may agree to *ad hoc* division of labor | No formally structured division of labor within central unit |
| Commitment to a central leadership | High commitment | Moderate commitment | Commitment to unit leaders | Commitment only to unit leaders |

Source: Adapted from Warren [26].

Appendix 9.4. Mott's coordination strategies.

| Differentiating Characteristics | Coordination Strategies | |
|---|---|---|
| | Hierarchical | Council |
| Power of inclusive system | Formal authority over member units | No formal authority over member units |
| Authority structure | Hierarchical | Horizontal or peer |
| Source of control | Formal authority structure imposed from outside member unit | Group norms and rules, informal |
| Distribution of benefits | Unequal, based on prescribed structure | Equal or based on relative contribution of member unit |
| Available sanctions | Funds, manpower, promotion | Prestige, benefits acquired through cooperation |

Source: Adapted from Mott [12].

Appendix 9.5. Haas and Drabek's coordination strategies.

| Differentiating Characteristics | Small Coordination Strategies | | | |
|---|---|---|---|---|
| | Simple Exchange | Mediated | Delegated | Hierarchical |
| Member organizations agree to | Specific set of activities | Policies that govern operation | Delegate authority to central system | No agreements necessary since structure is imposed |
| Responsibility of central system | Carries out programmed instructions | Programmed and some interpretation of policy | Formulate policy | Total responsibility |
| Types of decisions made by central system | None | Interpretative of policy and day to day operations | Policy and programs | Full range |
| Member organization control over central system | Equal among all member units | Varies depending on contact with central unit | Varies depending on contact with central unit | Little or none |
| Changes in policy or programs | Requires new negotiations among member units | Slight modification of programs is possible by central system | Modification possible without going back to member organizations | Controlled by central system |
| Membership | Optional | May be optional | Probably not optional | Not optional |

Source: Adapted from Haas and Drabek [6].

## CHAPTER TEN

# Administration and Politics in Interorganizational Analysis

J. KENNETH BENSON

THE STUDY of interorganizational relationships has produced a rapidly expanding body of literature in recent years. It is important in this context that the emerging perspectives and methodologies of interorganizational analysis be examined, compared, and evaluated. A critical assessment of interorganizational analysis is initiated in this chapter.[1]

Two general approaches to interoganizational research are identified --one administrative, the other political. Then, through an examination of data from a case study of an interorganizational network, it is shown how these two approaches illuminate different components of interorganizational relationships. The concentration of research on administrative issues and the neglect of the political dimension is a serious problem in interorganizational studies. Such a research pattern risks the construction of a dangerously one-sided field of study.

## THE ADMINISTRATION/POLITICS DISJUNCTION

The formulation of distinct administrative and political views depends upon selective reading of the interorganizational relationship. The administrative view, although allowing for the existence of a political realm, treats that realm as separable from and analytically distinct from the political. The political view, by contrast, asserts the pervasiveness of power and the impossibility of an administratively pure realm of action. From this perspective, then, the separation of administration from politics is fraudulent empirically and is potentially manipulative in its practical implications.[2]

Stated more systematically, the administrative approach is characterized by the following:

1. The concentration of theory and research upon a realm of practical action in which the resolution of immediate, technical problems of social organization is the focus of attention.
2. The insulation of this realm of practical action from the larger social-economic-political context; thus, problems of power are ignored altogether or converted to problems of technique.
3. The formulation of theory in which variables manipulable by the administrative actor are prominent; i.e., problems are posed and analyzed from the standpoint of some administrative actor.

Thus, an administrative actor operating from a position of dominance is assumed, and theoretical variables are selected with a view to their manipulability by the actor in question.[3]

The administrative perspective has been influential in interoganizational studies. It may be argued that the study of complex organizations has remained largely an administratively oriented field. (Consider the perspectives covered in Perrow [14] and Tausky [15].) Since interorganizational studies are initially developed as an extension of the study of organizations, interorganizational analysis also took an administrative direction. Furthermore, the alternative structural arrangements which pervade the interorganizational literature are drawn directly from the study of complex organizations. These alternatives may, for summary purposes, be characterized by the two labels "human relations" and "bureaucracy." These two venerable constructs provide the major analytical dinsinctions and theoretical questions posed within the administrative approach to the interorganizational relationship. The administrative view builds heavily on a dialectic between these alternatives. Thus, the time-worn (but not honored) questions of organizational sociology ring out anew: Should the interorganizational network be centralized or decentralized? Should coordination be accomplished by rule or by incentive? Should control be hierarchical or democratic? Can the division of labor be arranged so that effectiveness in service delivery is achieved without alienating participant organizations?

By contrast, the political perspective involves the following commitments:

1. The commitment to the interconnectedness of political and administrative realities and, thus, to the impossibility of separating an administrative realm from the larger social-economic-political context.

2. The insistence upon the fundamental import of power relations, i.e., patterns of dominance and dependence between social units in fitting together the various components of social organization and in determining their essential character.

3. The formulation of theory without regard to the adminstrative manipulability of its key variables and in which, by contrast, the administrative position is itself problematic, a phenomenon to be investigated.

From this perspective, the interorganizational network is regarded as a set of social relations with fundamentally political underpinnings. Relationships may be understood partially from an administrative perspective. However, at a deeper level, political considerations are argued to be paramount in determining the character of the relationship. This argument would apply to harmonious, coordinated relationships no less than to conflicting, disorganized ones.

The relationships between agencies are political in that they depend upon and reflect a series of interrelated power games. At least three such power games may be identified here.

1. The interactions between the agencies in the delivery of services are based upon their dyadic power-dependence relations. That is, the specific ways in which the agencies work with each other in providing services are dependent upon and interpretable on the basis of their relative capacities to control the flow of vital resources affecting each other. If one agency occupies a dominant position vis-a-vis the other, that dominance will be expressed in their interaction. This includes both the frequency and the quality of interaction.

2. The interaction between the agencies is dependent upon internal polities. That is, each agency is governed by an internal order in the sense that resources (authority and funds) have been committed to a certain array of tasks and techniques and to a social structure granting priority and dominance to certain divisions or positions. The personnel of the agency may accept this order to varying degrees. Some agencies have an identifiable "opposition" within their staffs; others do not. The

important point is that a certain arrangement of priorities, techniques, and positions tends to be maintained. Efforts to deflect the organization from this established pattern, whether originating within or outside its boundaries, are frequently frustrated.

3. The interaction between the agencies is dependent upon a larger polity to which the agencies are linked. The power-dependence relations in the larger polity have important effects upon the interactions in the pair. The larger polity includes other organizations or agencies. It also includes the "political system" as conventionally understood, i.e., authorities, parties, lobbies, and publics. Thus, the interactions between agencies often express patterns of dominance in the political system. These effects may be direct and formal, e.g., where laws specifically regulating an interagency relationship are concerned. Or, the effects may be indirect and informal, e.g., where the larger political system provides the relevant context within which interagency decisions are taken.

At each point, power refers to the capacity of one actor to exercise control over the resource-getting capacities of another. Thus, in any of the arenas described above, the capacity of one actor to manipulate vital resources on which the other depends conveys influence, sometimes even dominance, over the decisions of the latter. The major resources of consequence in the interagency network are money and authority. That is, the organizations in the network are said to pursue an adequate supply of money and authority to permit the continuation and satisfactory operation of their programs.[4]

A "power structure" exists where the resource commitments have become stabilized, establishing the priority of certain functions and offices and maintaining the normality of specific strategies and ideologies. Power structures may be legitimate or illegitimate. That is, a stable pattern of dependence may develop around sources of control that are unofficial or nonregular as well as those that are officially sanctioned and regularized. Thus, a stable power arrangement based on control over uncertainty, as in the work of Crozier [6; 7], would be termed a power structure even though its stands outside the official, normative authority system.

## A FOUR-AGENCY NETWORK

Let us now explore the divergence between the administrative and the political approaches through the examination of empirical materials. The data are drawn from a study, begun in 1969-70, of a four-agency network in a nine-county area of Central Missouri. The study has been reported in detail elsewhere [3]. Only the barest summaries of the data are reported here. The intent is to show the juxtaposition of administrative and political perspectives in the analysis.

Three pairs of agencies, rank-ordered with respect to levels of work coordination are examined. The definition and measurement of coordination included three components: (1) work-related interactions--referrals, meetings, and similar contact; (2) articulation--satisfaction with the handling and results of referrals; and (3) flexibility of interactions--the absence of routinization, formalization of contacts [3, pp. 15-20]. The pairs of agencies discussed here are: Employment Security (ES)-

Vocational Rehabilitation (VR), a highly coordinated pair; Employment Security (ES)-Welfare (W), a moderately coordinated pair; and Employment Security (ES)-Community Action Agency (CAA), a pair ranking low in coordination. The inclusion of Employment Security in each pair provides a comparative perspective of how one agency related differently to three others on the basis of varied political pressures and alignments.

## Employment Security-Community Action Agency

The relationship between Employment Security and the Community Action Agency ranked low in coordination. Extensive interaction took place, but personnel in each agency complained frequently about the poor performance of the other. Furthermore, personnel in each appeared to have limited knowledge of the other agency and, in fact, to harbor some negative stereotypes. The interaction was apparently sustained by the efforts of CAA workers to "force" referrals upon ES.

A widening examination of this relationship revealed some broad areas of dissension between the agencies. The ES personnel generally rejected the domain claims of the CAA. That is, many ES workers thought the CAA should not be conducting certain programs and activities (especially those in the manpower field) which were claimed by CAA workers. In fact, some ES personnel suggested that anti-poverty agencies should not exist at all.

Beyond this, a broad philosophical disagreement between these agencies was revealed in responses to a series of questions about poverty. The ES workers espoused a much more individualistic view of the causes of and solutions to poverty. The CAA workers, by contrast, stressed the influence of situational and societal contexts both in the causation of poverty and in its reduction.

An administrative perspective could be taken in the analysis of this pair. It might be argued that this was a classic problem of misunderstanding, a failure of communication. The personnel of each agency did not understand the tasks or techniques of the other. Thus, the CAA workers were making demands upon ES which could not be met. And, the ES workers did not appreciate the good and proper functions of CAA. From this "human relations analysis," one might prescribe a number of measures to reduce the communication problem. Joint staff meetings might be arranged; educational programs might be mounted; cooperative contacts might be fostered. Then, presumably an effective working relationship could be expected to follow.

An alternative administrative view would be that these agencies were not properly organized in relation to each other. Thus, their functions were not adjusted to each other, their separate tasks did not fit together. From this "bureaucratic analysis," one might propose a series of reforms to cure the organizational maladies and to create a viable division of labor. Contractual agreements might be reached to define the interconnected functions of the agencies. Duplications of services might be eliminated. The specific responsibilities of each agency toward the other might be specified. For example, the CAA might become the "outreach" component and the ES the counseling/placement component in a redesigned division of labor. Joint service centers including representatives of each agency might be established. From this properly arranged division of labor, then, both effective coordination and harmonious relations based on understanding might be expected.

A political interpretation of this relationship runs in quite different directions. The dyadic interaction between ES and CAA was political in the sense that it was based on a power-dependence relation between the two. The two agencies were driven toward interaction with each other by their mutual dependence on each other for needed resources. The CAA was dependent upon ES for placement services. The capacity of CAA to demonstrate its success in helping the poor depended upon finding jobs for its clients; and ES was a primary controller of job placements. Although the CAA had acquired an autonomous job development and placement capability on a small scale, it remained dependent to a certain degree upon ES services in this sphere. In addition, since a part of the CAA's charge was to produce changes in the operations of established agencies, their success depended upon drawing ES into a more extensive commitment to the poor. To summarize, the CAA's capacity to draw needed resources--funds and authority to operate--from its environment was dependent upon the policies and practices of ES toward the training and placement of CAA-referred clients.

The ES agency, although not dependent on CAA in the same direct way, was not in a position to maintain an aloof and detached stance toward CAA. ES had been brought under pressure from the larger political arena to undertake programs oriented to the poor. New programs such as MDTA and Job Corps brought the agency willy nilly into the anti-poverty arena. Yet, the traditional stance of ES left the agency without viable links to the poor. In this context, then, the CAA stood between ES and the poor. In this position CAA could have damaged ES by sabotaging its relationship to the poor. Or, by serving as a conduit for referrals to ES and as a liaison with the poor, the CAA could have provided substantial support to ES.

There is another dimension of the power relationship between ES and CAA. The CAA posed a domain threat to ES which could have diminished the latter's resource-getting capacity. The CAA initiated a number of activities falling clearly within the claimed responsibility of ES. Job placements were provided by CAA in several counties where ES lacked local offices. A placement center partially supported by CAA was maintained in a city containing a sizeable ES office. And, the CAA carried out a Neighborhood Youth Corps program under contract with the U.S. Department of Labor. ES was threatened by these activities because (1) funds and authorizations for manpower services were going to an agency other than ES, and (2) the provision of such services by CAA implied that ES had not been performing its assigned functions well.

The ES-CAA relationship was affected also by internal polities. In the case of ES, the long-time commitment of the agency to the role of the general-purpose employment agency meeting the needs both of employers and of employees was reflected in the preferences of the leadership. The agency had established itself as a viable organization on the basis of a noncontroversial, nonpartisan style. The program priorities and the recruitment and training efforts of the agency reflected this commitment. Staff members at all levels appeared to be committed to this long-standing pattern of resource allocation. Thus, the agency's internal order centered around this traditional set of functions and strategies.

The internal order was linked, too, to perceptions of the leadership regarding the necessary bases of support for the agency in the larger environment. For example, they contended that departures from the established paradigm of nonpartisan service would undermine the support for the agency by businessmen. This, in turn, would diminish the capacity of the agency to make job placements and, thus, erode the resource-getting capability of the agency.

The relationship between these agencies is affected finally by a larger polity. The realignment of political forces at the federal level in the early mid-1960s produced new pressures upon ES and other established agencies. The agency was thrust into an array of new manpower and job development programs, including MDTA, Job Corps, Concentrated Employment Program, and Work Incentives (WIN), as prominent examples. In addition, the agency was subjected to reforms intended to eliminate racial bias in the placement of job-seekers. These measurements forced the state Employment Security agencies into an extensive involvement with the poor and thus with the agencies more directly identified with them, especially Welfare and the Community Action agencies (themselves a product of the same political forces which brought change to ES). Administrators in ES were caught in a dilemma. The new pressures from the federal level forced them into programs and linkages to other agencies which threatened their capacity to support their traditional programs and to maintain the support of traditionally important publics, especially businessmen.

Likewise , the CAA was directly influenced by pressures emanating from the larger political arena. It was created under the economic opportunity legislation of the mid-1960s. Like other OEO undertakings, the CAA was under pressure to show rapid progress against poverty. Furthermore, it was subject to sometimes conflicting directives. It was to challenge and confront the established agencies. Yet, cooperative relationships were to be developed as well. It was to mobilize the poor to defend their interests in a militant fashion, yet to do so in collaboration with state and local officials. Over the years the OEO programs were subject to increasingly stringent regulations intended to reduce their militancy and abrasiveness. And, in the period of our interviews (1969-70), they were already under threat of drastic reduction or termination. Thus, the CAA was driven to approach ES and other established agencies but unable to make peace with them. The position of the agency in the quest for continued support at the federal level required a degree of seeming inconsistency at the local level.

These three political games--the dyadic one between ES and CAA, the internal ones within each agency, and the contextual one involving national policies--were intricately tied together. The outcomes in one game had implications for strategies in the other. The new pressures from the federal level opened ES to entanglement with the CAA. The CAA, in turn, was operating under constraints which forced it to interact with ES but prohibited a harmonious relationship. In a similar way, the internal polities in each agency were linked to the other polities. The leadership in ES was drawn, against their better judgment, into new programs which required greater involvement with the poor. This was largely a consequence of federal pressures. Thus, they were forced to balance their concerns for internal order against the threat of losing outside support.

## Employment Security-Welfare

The relationship between Employment Security and the state Division of Welfare was moderately coordinated. Considerable interaction in the form of referrals took place; however, little interaction of other kinds occurred. Performance ratings of the two agencies were moderate, standing higher than those characterizing ES-CAA, ES-VR (Vocational Rehabilitation), and W-CAA but lower than those for VR-W and VR-ES. The referrals appeared to follow the eligibility guidelines governing specific legally and administratively defined programs, such as Aid to Families with Dependent Children or Manpower Development. These agencies appeared to relate to each other in a rigid, formal way approaching a bureacratic pattern.

Looking beyond the interaction data, some sources of tension in the attitudes and opinions of personnel were discovered. Although this agency-pair rated relatively high in domain consensus (i.e., agreement regarding the appropriate role and scope of each agency), there was an important area of disagreement on the subject of the causes and correctives of poverty. Contrary to the individualist stance of ES, the W respondents were more likely to endorse situational-contextual analyses. The W workers, in other words, were more likely to believe that social circumstances, such as unemployment, racial discrimination, and housing deterioration, could cause people to be poor. Thus, they were also more likely to accept social reform rather than (or in combination with) individual change as a strategy.

An administrative analysis of this pair might lead to the conclusion that more extensive interaction of a more flexible and less rigid kind should be encouraged. Further, it might suggest that a greater understanding of the perspectives held in the other agency should be developed. These two lines of action might be taken in conjunction and might be expected to "feedback" positively on each other. Means to facilitate such a development could include training programs and planned interactions designed to facilitate communication and understanding. Or, more careful specification of the duties of each agency and of the responsibilities of each to the other might be pursued through legislation or bureau policy. Again, we see a dialectic between "human relations" and "bureaucracy" formulations. And, of course, we could see such strategies combined in proposals for joint service centers.

Once again it must be pointed out that the political undercarriage is missed by this administrative analysis. The interaction pattern characterizing the ES-W pair is explicable on the basis of an analysis of polities. The two agencies traditionally had little interaction because their positions in the political economy gave them no reason to interact frequently. Each agency had a fairly specific task to fulfill which did not require intensive or extensive interactions between them. Each could adequately perform its assigned duties and draw resources from the environment without relying upon the other. ES was engaged in job placement and in the administration of unemployment compensation. These duties linked the agency directly to private employers but not to other "helping" agencies. Businessmen could directly affect the capacity of the agency to command resources.

Welfare organization could have little effect. In a similar way, in this earlier period the welfare agency had little reason for extensive contacts with ES. Such contacts probably would have been desirable, from the standpoint of service integration, but were neither mandated nor required by the resource-generating capacity of the agency.

In recent years both agencies were subjected to pressures from the federal level for a more intensive and integrated approach to the problems of the poor. Welfare had been driven toward efforts to counsel and train recipients and to get them into employment. ES, at the same time, had been driven toward programs of manpower development with special emphases on low-income and minority populations. These pressures, emanating from external politics, have drastically altered the power-dependence relation between ES and W. Neither agency can any longer go its own way in relative isolation from the other. Each can exercise some control now over the resource-generating capacity of the other. W must show progress in getting recipients into training programs and job opportunities. ES must demonstrate its capacity to assist the poor, with special emphasis on welfare recipients. In this context, the inadequacies of one agency revert to the harm of the other. For example, in one area ES assigned staff to local offices on the basis of expectations of the number of referrals from W; and, when W was plagued by a high turnover rate, then ES found itself overstaffed in those offices.

The alteration of the external polity and of dyadic relations between ES and W has been accompanied by tensions in the internal order of the two. The ES paradigm of matching people to jobs in a relatively straightforward and uncritical way has been replaced by an adversary stance in behalf of the low-income client, especially the hard-core unemployed, which sometimes occasions conflict with businessmen. This shift has generated new functions. Many ES personnel felt they had been drawn against their will into the new tasks and that the new activities competed with and undermined the viability of older programs, such as the placement of professionals.

The internal order in W was also in flux at the time of the study. The leadership had moved the agency toward a greater stress on counseling and aggressive referral activities to assist recipients toward employment and self-sufficiency. A residue of older case workers and county directors committed to the harsh and rigid public assistance philosophy of the past was seen as a serious problem by the leadership. Possibilities for federalizing the public assistance functions and converting the state agency entirely to counseling and service provision were under consideration. There was some feeling that the agency had to contemplate drastic changes because its very existence was in jeopardy in the national debate of welfare programs. (This was in a period when welfare reform and family assistance plans were under consideration in Washington.) Thus, the increased, intensified interaction with ES was associated with transformations of the alignment of forces within W.

The tension between ES and W, then, is linked to tensions and conflicts internal to each. The realignments of forces in the larger political economy had produced both a new dyadic relation and a reorganization of internal structure in each agency. The alterations of the internal power structure have direct repercussions upon the dyadic relationship and vice versa. It is important to recognize that each agency became a representative in this network of a position articulated in the national debate about welfare. The ES personnel tended to express a "business-perspective" toward welfare--stressing the importance of work, blaming unemployment largely on the unemployed, and expressing the suspicion that W personnel wanted to maintain the welfare rolls rather than getting people into jobs. This view was tied to the bases of traditional support for ES and its programs. Thus, these agencies were drawn into extensive interaction by a realignment of forces in the larger political arena which threatened the support base for the agencies. Yet, the internal order of the agencies was at least partially tied to their past functions. Realignments of interagency relations, then, were threats to internal power structures. The tension characterizing the relationship may be attributed in part to this imbalance or contradiction between internal and external polities. One cannot understand the ES-W relation, then, on the basis of an administrative view--whether human relations- or bureaucracy-oriented. Such a view imposes a one-dimensional analysis that ignores the fundamental political realities.

### Employment Security-Vocational Rehabilitation

The most coordinated relationship of the three under review was that between Employment Security and Vocational Rehabilitation. These agencies established over the years a relatively high degree of cooperative action. The participants in each agency displayed adequate knowledge of the other's programs. Cooperative interactions were frequent, satisfaction ratings were mutually high, and complaints were relatively infrequent.

This cooperative relationship was associated with high levels of interagency consensus. ES and VR personnel were alike in their endorsement of individual change strategies for the reduction of poverty and in their rejection of more radical analyses of the problem. And, they were largely in agreement on the services properly assigned to each agency.

The areas of potential tension between the two agencies had been well contained. These involved mainly the division of labor between the agencies in the provision of manpower services. ES personnel were tolerant of VR activity so long as its manpower services were restricted to the mentally and physically handicapped and thus did not threaten ES claims to a broad manpower mandate.

An administrative analysis of this pair might stress the value, demonstrated here, of a carefully worked out division of labor and of measures to improve interagency understanding. Participants in each agency understood the unique services of the other and how their roles should mesh. Their ideas regarding employment problems were quite compatible. Their joint work was carried out with relative efficiency and in an atmosphere of mutual respect. Clearly, it might be argued, such signal results stem from wise adminsitration and from realistic negotiation between agency executives.

There is, no doubt, much truth in this administrative assessment. Its accuracy must not be denied. However, it is important to note its incompleteness, for beneath a quiet and harmonious surface, no less than a turbulent one, we may discover a realm of power and dominance.

The immediate dyadic relationship between ES and VR was characterized by the pursuit of advantage in a political-economic context. Each agency depended upon the other for services which had to be performed if it was to carry out its own programs satisfactorily. In this trade-off the dependence of VR upon ES was greater than the reverse. VR relied upon ES for a variety of job-training programs and for some job development and placement activities. ES, in turn, depended upon VR for special services to the handicapped. Either agency would have been strained by a takeover of such services performed by the other. Either would have suffered damage to its effectiveness and, thus, to its resource-procuring capacities by a cessation or deterioration of the relationship. Thus, the agreements negotiated between the agencies over the years probably worked to the advantage of each. Yet, in the process each agency lost some autonomy in that each can control to some extent the sources of uncertainty affecting the other.

This dyadic interdependence between the two agencies was intricately linked to their internal polities. The prevalent philosophies, priorities, and techniques of the two were supportive of their coordination. Both agencies appeared to be committed to a relatively conservative paradigm for dealing with employment problems. Both stressed the development of employment potential through training and enhanced motivation. Both sought harmonious, cooperative relationships with employers. Neither encouraged clients to blame the "system" for their problems. Neither supported abrasive challenges to employers. Both dealt with client populations broader than the poor and resisted pressures toward an exclusive or near exclusive concentration on poverty. Neither was favorably disposed to a "welfare," "social work," or "anti-poverty" definition of its activities. Thus, the cooperative interaction between ES and VR probably reinforced the dominant orientations within each agency.

The strongly developed interdependence between ES and VR, however valuable in its own right, may have been an impediment to change of either agency toward a more thoroughgoing commitment to the poor. By the same token, if substantial change was forced upon either agency, the coordination between them could be an unintended but necessary casualty. If either agency were drawn more thoroughly into anti-poverty work or into a substantially different paradigm, their interaction could be thrown into disarray.

At the time of our study, both agencies were in fact subject to pressures from the larger political arena. The pressures impinging upon ES have already been described. In the case of VR, pressures and inducements associated with a variety of anti-poverty and Great Society programs were drawing the agency out of its established paradigm. Programs such as Model Cities provided funds for rehabilitation services with a much richer federal mix than regular VR monies. Furthermore, there were pressures to broaden the range of clients served by VR through the liberal interpretation of eligibility guidelines. For example, the agency was authorized to extend services to clients whose employment potential was hampered by "behavior disorders." A loose interpretation of this cateogry might have greatly expanded the potential clientele of the agency and provided the rationale for moving in the direction of anti-poverty work. While

VR officials apparently resisted such pressures in the short-run, continued exposure of the two agencies to new constraints and incentives of this kind could be expected to disrupt their dyadic relations.

A movement of one or both agencies into a more thoroughgoing commitment to the poor could be expected to produce domain conflict between the two. The change would likely bring the agencies into areas of activity now undefined or nebulously defined as to hegemony. Thus, each might try to extend its control and hedge in the other. In fact, some VR personnel were already arguing that VR should have priority in the manpower development field.

The other area of potential conflict is in the paradigm shifts that would likely accompany these changes. If either agency moved away from its present rather conservative paradigm, conflict would be likely to develop as personnel with different understandings of their work interacted.

Beneath its consensual and harmonious exterior, then, the ES-VR relationship was based on power. And the dyadic relationship was linked to polities within the two agencies and within the larger social context. Thus, an administrative view of the relationship omits its most vital features.

## CONCLUSION

It has been argued in this chapter that administratively-oriented analyses of interoganizational linkages omit and potentially obscure political realities of fundamental importance. Through the summary of data from a four-agency network, the complex interplay of administrative and political realities has been shown. A purely administrative analysis of this network would have overlooked or hidden this dimension of the network relations.

The dangers of a purely administrative analysis are numerous. Two will be developed here. First, such an administrative view may lead to inaccurate prediction of the consequences of certain social policies. Efforts to improve interagency coordination through human relations' devices or more rational divisions of labor may be ineffectual if the more fundamental factors are deep-rooted dominance patterns in a series of interrelated power arenas. Second, and more important, the administrative analysis may misconstrue or obscure the fundamental problems of the society and thus hinder the development of a national debate on the directions of the society. The propagation of administrative formulations of fundamentally political problems could contribute to the further distortion of the processes of political communication and decision making in the society. Furthermore, by converting political questions about the direction and priorities of the society into technical problems of administration, we may contribute to the maintenance in power of those advantaged by present societal arrangements. They are more likely to be in a position to define and control the administrative process. Thus, administratively-oriented theories of interorganizational relations may provide a means of managing contradictions in the society and maintaining its present order.

## FOOTNOTES

1. The importance of developing critical, reflexive analyses of sociological work has been emphasized repeatedly in recent years. Perhaps most influential in this regard have been the efforts of Friedrichs [8] and Gouldner [9]. The author's efforts in this direction have been influenced by critical sociology as represented in work of Birnbaum [5], Habermas [11], Touraine [16], and others. This author has previously argued the importance of such analyses in the organization field [2].
2. In formulating this distinction, the author has been influenced by a number of scholars, including Krupp [13], Habermas [10; 11], Birnbaum [4], and Wolin [22, pp. 352-434].
3. The administrative and political approaches are formulated as exaggerated, extreme perspectives here in order to draw out their separate implications. Although some studies cannot be unequivocally assigned to one or the other category, it is possible to identify tendencies. A series of studies by Turk involves a predominately administrative approach [17; 18; 19; 20]. Turk has tried to identify structural variation in community agency networks which predicts the receptivity of the community to new federal programs such as community action. The structural factor is the degree of interconnectedness of agencies. Richly joined networks are expected to be more innovative than those with less extensive linkages. Here the research effort is to find an a-political variable which accounts

for adoption of programs. The political process involved in adopting such programs is not subjected to analysis. Instead, there is a tendency to explain away that process as a consequence of underlying structural features of the interorganizational networks in the community. The practical import is that richly joined networks should be developed as a way of encouraging program innovation.

Other studies (e.g., Klonglan, et al. [12]) which approximate the administrative approach are those in which a concern for interagency coordination is the apparent motive for research, and a variety of predictors of coordination are investigated as possible determinants of coordination. Such independent variables are frequently subject to change by administrative action.

4. The author's conception of power shows the influence of a number of writers, perhaps most directly that of Crozier [6; 7], Zald [23], and Wamsley and Zald [21]. For a more detailed statement of the theoretical position, see Benson [1].

## REFERENCES

1. Benson, J. Kenneth. 1975. Interorganizational network as a political economy, The. *Administrative Science Quarterly* 20: (June):229-249.
2. _______. 1973. Organizations: A dialectical view. Paper presented at the 68th Annual Meeting of the American Sociological Association, New York City, Aug.
3. _______, Joseph T. Kunce, Charles A. Thompson, and David L. Allen. 1973. Coordinating human services; A sociological study of an interorganizational network. Columbia, Mo: Regional Rehabilitation Research Institute, Mono. Serv. No. 6.
4. Birnbaum, Norman. 1969. *Crisis of industrial society, The*. London: Oxford University Press.
5. _______. 1971. *Toward a critical sociology*. New York: Oxford University Press.
6. Crozier, Michel. 1964. *Bureaucratic phenomenon, The*. Chicago: University of Chicago Press.
7. ________. 1973. *Stalled society, The*. New York: Viking Press.
8. Friedrichs, Robert W. 1970. *A sociology of sociology*. New York: Free Press.
9. Gouldner, Alvin W. 1970. *The coming crisis of western sociology.* New York: Basic Books.
10. Habermas, Jurgen. 1973. *Theory and practice*. (Trans. by John Viertel.) Boston: Beacon Press.

11. _______. 1970. Toward a rational society: Student protest, science and politics. (Trans. by Jeremy Shapiro.) Boston: Beacon Press.

12. Klonglan, Gerald E., Don A. Dillman, Joel S. Wright, and George M. Beal. 1969. Agency interaction patterns and community alcoholism services. Department of Sociology and Anthropology. Ames: Iowa State University Sociology Rpt. No. 72.

13. Krupp, Sherman. 1961. Pattern in organization analysis. New York: Holt, Rinehart and Winston.

14. Perrow, Charles. 1972. Complex organizations: A critical essay. Glenview, Ill.: Scott, Foresman.

15. Tausky, Curt. 1970. Work organizations. Itasca, Ill.: Peacock.

16. Touraine, Alain. 1971. The post-industrial society. (Trans. by Leonard F. X. Mayhew.) New York: Random House.

17. Turk, Herman. 1973. Comparative urban structure from an interorganizational perspective. Administrative Science Quarterly 18 (March):37-55.

18. _______. 1969. Comparative urban studies in interorganizational relations. Sociological Inquiry 38 (Winter):108-110.

19. _______. 1973. Interorganizational activation in urban communities: Deductions from the concept of system. Washington, D.C.: American Sociological Association, Rose Monograph Series.

20. _______. 1970. Interorganizational networks in urban society: Initial perspectives and comparative research. American Sociological Review 35 (Feb.):1-19.

21. Wamsley, Gary L., and Mayer N. Zald. 1973. *The political economy of public organizations*. Lexington, Mass.: Lexington Books, D.C. Heath.

22. Wolin. Sheldon S. 1960. *Politics and vision, continuity and innovation in western political thought*. Boston: Little, Brown, Co.

23. Zald, Mayer N. 1970. Political economy: A framework for comparative analysis. In Mayer N. Zald, ed., *Power in organization*. Nashville, Tenn.: Vanderbilt University Press, pp. 221-261.

## CHAPTER ELEVEN

# An Intergovernmental System for Effective State Land-Use Planning

CLYDE W. FORREST

EFFECTIVE public service planning requires consideration of more than the typical content of planning documents now gathering dust on the shelves. Such consideration should begin with the organizational and functional aspects of intergovernmental planning as a system. Local, state, and federal jurisdictional levels represented by popularly elected or appointed executive, administrative, judicial, and legislative components describe (are) the basic organizational elements of the system. Such an elementary acknowledgment of fact is only significant in light of the question: How effectively have traditional public service functions and land use planning related to these basic organizational elements? While not discussed explicitly, there are several basic assumptions in this paper. The following four are listed to establish some limits:

1. Interactive social, economic and environmental processes can be planned only to the degree that they are controlled.
2. Land use control is potentially a vital integrating element for effective public service planning.
3. Land use planning efforts have often ignored or intentionally competed with basic organizational elements of the system.
4. Land use control may be effected through any one, or combinations of, the following governmental activities: (a) Regulation (i.e., zoning), (b) Expenditures (i.e., "work"), and (c) Revenue production (i.e., taxes).

Traditional U.S. land use controls which exist in at least 43 states, are primarily based upon the regulation of private property use by local government. Local efforts have demonstrated inadequacies which will be elaborated later and are the source of much criticism of contemporary government and political policy. Expenditures and revenue production have been the federal approach in land use planning, with the state merely acting as part of the pipeline. New proposals, such as the National Land Use Planning and Management Act, follow this tradition. The shortcomings of unsystemitized regulation, expenditure and revenue programs have been much criticized in the literature of urban and regional planning since the mid-1960s. The alleged, "Quiet Revolution" notwithstanding, the critique of Illinois state and local land use control efforts which follows is representative of the majority of U.S. jurisdictions and the considerations for improving effectiveness of public service planning through land use controls are broadly applicable.

Our basic thesis for an approach to land-use control is to avoid control as an objective in itself and to attempt to minimize the continual imposition of externalities that affect the achievement of public service and private investment objectives. Rational land use is constrained by intergovernmental planning. Six possible constraints are offered for consideration and may be regarded as the prerequisites for meeting public service demands.

1. An Adequate Data System. The data system must include information about individual and group welfare, fiscal and other economic matters,

and environmental aspects. In addition, an adequate data system must include a continuous update that will facilitate an evaluative review.

2. Broad Base Participation. A rational system must include a reasonable opportunity for general citizens, various levels of government, and competing local units of government to participate as fully as practicable in the decisions that they feel will affect them. This participation should include access to the data base and should be stimulated by an active notice and informational program conducted by designated decision-making authorities.

3. Decision-Making Authority. The authority to make policy decisions must be vested in an agency that is responsive to the traditional values of the democratic process and yet somewhat separated from the direct political roles of the legislative and executive branches of government. The judicial system is suited to this function for review purposes; but, of course, it is largely unsuited for the role of promulgating and administering policy.

4. Express Goals and Standards. The decision-making authority must be guided by a general set of goals, standards, and objectives which have been formally adopted by the legislative and executive branches of government, after a full use of the data available and participation by all concerned interests. Within the policies established by these preset goals and objectives, the decision-making authority must follow a known set of procedural requirements.

5. Mandatory Procedures. Procedures should also be adopted by the legislative and administrative units and imposed on the judicial branch so that adequate data, compliance with preset goals and standards, timely decisions, and an opportunity for coordination and participation are afforded.

6. Adequate funding. The adequacy of funding of any governmental program is a delicate point of balance. Overfunding may result in excessive bureaucratic activity; underfunding will result in inadequate administration of the particular program. It is only through adequate funding that competent personnel may be attracted, retained, and trained and, therefore, assist in attaining the preset goals and objectives.

While these prerequisites of a rational planning system offer no guarantees, they at least define a starting place and the major elements that give the best chance of success. These elements are not believed to be unduly theoretical and may be directly related to the current set of major problems in land use regulation examined in this chapter, with specific examples cited from the State of Illinois.

## PROBLEMS IN CURRENT LAND USE REGULATION

While the Congress debates and many states are in the process of reacting, the majority of states responses to land use planning is based on a pre-1926 model (see Figure 11.1). The 1926 model addresses some of the issues that may be properly raised, but it is totally inadequate to deal with the range of public services responsive to land use planning.

Our major assumption--that land use control is a vital, integrating force for effective public service planning--is based on the unacceptability of other major alternatives, which might include mandatory settlement and employment policies. Ten major problems may be directly attributed to the inadequacy of present land use control legislation. These are still common to all but seven or eight states.

## The "Growth Warp"

In terms of the 1926 model under which most states are still operating, land use regulation is aimed at the control of "growth and development." While it may seem strange to identify this as a problem, it is, in fact, at the very heart of the bias in the legislative response imposed on local governmental units.

In law, of course, a governmental unit is generally not authorized to control or engage in any activity for which it is not specifically authorized. Whether the authorization is constitutional, legislative, or charter, there must be some legal basis for governmental activity. If there is no grant of authority that may be cited to justify governmental regulation, actions are said to be ultra vires. Therefore, attempts to deal with issues that do not directly relate to control of growth and development are met with legal questions, and properly so, on the basis that they are not included in the scope of the authority granted. Such issues would include environmental conservation, agricultural land conservation, and flood-plain zoning. Even where constitutional grants are relied on, the general rule has been that land-use controls were unknown at common law and therefore are not granted by a general delegation of police power.

The "growth warp" is expressed in legislative intent as well as in the actual structure and procedures required to deal with land use. This warp produces a totally antiquated and piecemeal approach to land-use policy, resulting in the need for frequent amendments to include additional specific types of land use concerns.

### Land as a Private Market Commodity

In all states dealing with the 1926 model, land is basically viewed as an exclusive private market commodity--one to be used, sold, or developed for its highest dollar value. The phrase "highest and best use" is too often heard in land-use regulation and land use planning circles. "Highest and best use" is a legitimate consideration of land use planning, but it is hardly determinative of the public interest. Under this philosophy there is very little chance that land may be viewed as one of our basic natural resources upon which, along with human resources, we are largely dependent.

### Independent Local Concern

Land use control under the 1926 approach is an independent local matter that should not involve state departments or expressions of non-local concern. To many, this expression perhaps seems overly strong; but it is, in fact, the current legal status of land use regulation in Illinois, for instance. In such cases as The Village of Mount Prospect vs. Cook County,[1] the determination was expressly made that the village had no legal ability (standing) to participate in a judicial review of a Cook County zoning change, even though the change was adjacent to the village limits and would have an effect on the village. Home rule authority granted to municipalities has now been used to grant standing to such units: Forest View Homeowners Association vs. Cook County.[2]

The example of independent local autonomy most frequently mentioned is in the case of housing and direct matters of racial discrimination. Land use control is and has been quite properly charged with having been employed as an instrument of local racial discrimination. Unless those representing larger-than-local concerns participate in the decision-making process, it is inconceivable that this particular problem will ever be corrected.

## Uncoordinated Regulation

Land-use regulation under the 1926 model is uncoordinated and need not relate to a larger planning process. It seems particularly incongruous in states where an exclusive private property philosophy often is supported that local government has been given the authority to interfere with land uses without being required to develop a careful public statement about its objectives in regulating private use.

Most states, even those using the 1926 model, require that zoning be "in accord with a comprehensive plan." Whatever the meaning of this phrase, as judicially interpreted, it is far better than the absence of the phrase, as in the Illinois enabling legislation. Therefore, the many examples of the lack of a rational approach to land use control are not surprising. This is not to say that there are no important exceptions to this general problem; but the point is, a legal requirement that land use regulation be the result of a carefully thought-out, participatory system based on preestablished expressions of policy and objectives is needed.

## Ad Hoc Participati[illegible]

Citizen participation in the land use regulation system is ad hoc and is oriented toward the status quo. Since the biases of the regulatory system favor growth and development, and since most changes are stimulated by private development requests (not be systematic governmental reevaluations), it is no surprise that the general citizen often regards zoning as a booby trap on which he may have relied, to his dismay. Since the participation is generally ad hoc on a case-by-case basis, the bitterness and acrimony generated contribute to a disrepute, often resulting in an active intolerance and disregard of its requirements. Since status quo is often regarded as the highest value, it is also not surprising that, without a publicly developed plan, residents deeply resent and bitterly oppose changes that are not in keeping with their anticipations.

## Judicial Inadequacy

As the place where the ultimate resolution is made of local land use decision, the judicial forum is inadequately informed about legislative and administrative intent. Our enabling legislation is typically general in coverage, expressions of state legislative policy in relation to land use are notably lacking, and the local interpretations of the acts usually are not necessarily based on a rational planning process. Therefore, it is a small wonder that the courts find themselves faced with numerous ad hoc, case-by-case reviews of both minor and major land use proposals.

The record presented in court is often a farce. A court may be asked to review a decision involving a million dollar investment based on such a simple motion as, "I move denial because the application is contrary to the comprehensive plan." What "comprehensive plan" means then must be determined by the court; and the reasons for the local decision must be fathomed, if possible, after the fact. Because the judicial forum is the traditional place for the resolution of conflicting interests, given the inadequacy of legislation combined with a lack of planning, lack of citizen participation, lack of a good data system, incompetent personnel, and outright corruption, it is no wonder that the courts are becoming "Super Boards of Appeal."

## Public Use Exemptions

The 1926 model of land use regulations has been primarily directed toward the control of private development uses. In many states, public uses have been outside the authority of zoning, subdivision, and building codes. No one doubts that the impact of a public use, such as a major recreation facility, reservoir, stadium, or highway interchange, has a drastic effect on the nature, quality, and timing of development in the private sector. The situation calls for an adequate evaluative system, one that provides participation for more than one governmental unit.

Perhaps the classic illustration of the inadequacy of excluding public land uses from the land use control system is the case of the City of Des Plaines vs. Chicago [the] Metropolitan Sanitary District.[3] The Illinois Supreme Court ruled that the Des Plaines zoning ordinance was inapplicable to the governmental use of a sanitary-sewage treatment plant proposed for location in a residential district of the community. This legal limitation on the authority to resolve intergovernmental disputes concerning location and operation could be easily rectified and stands as one of the major unmet problems in land use control. The current system simply means that a governmental unit acting within its legal scope of authority may determine what is best for its interest and the interest of its particular clientele, with no necessity of consideration for the interests of other affected citizens represented by other legitimate governing bodies. This case is now pending appeal on a home-rule issue of whether or not home rule units would be able to supercede a direct delegation of state authority in authorizing special-purpose governmental units, and some way of resolving the issue may be found.

## Procedural Complexity

The majority of local governing bodies seem to have intentionally chosen the most obscure, complicated, time-consuming, and technically deficient procedure that could be devised to handle land use regulation. Modern zoning ordinances are often extremely lengthy, and detailed documents require great expertise to interpret. A clear determination of what regulations apply to a particular property and what alternatives exist for seeking the maximum, permitted use of that property is an impossible task in many jurisdictions. In the City of Aurora, Illinois for example, the ordinance requires separate public hearings before three agencies in order to consider an amendment of district.

The complexity itself probably contributes to controversies often surrounding requests for zoning approval. Quite often, the lack of a quorum causes postponements of hearings, to the dismay of the developers and of possible objectors. Delay and stall tactics have sometimes been used with corrupt intent. The frequent litany of health, safety, and welfare, keyed to standard considerations that have been construed by courts in Illinois and in many states, result in a lawyer's delight and a layman's plight of confounding principles of law, rules of evidence, complex procedures, and interminable delay.

Despite the procedural time delay, a paradox exists--the actual technical considerations of most proposals is completely inadequate. It is not unusual at all for the zoning board or city council to review facts and make a determination on a million-dollar project after only 15 or 20 minutes of deliberation.

What has happened appears to be a drift into very complex, often duplicative procedures with inadequate attention to detail and technical considerations. The heat generated by emotionalism, political goals, and contradictory expressions of vested interest gives little light in the local land use planning system.

## Areas Least Controlled

The trend of population and economic growth in urban America for the last decade has been for urban development to take place primarily in unincorporated areas adjacent to or within convenient commuting distance of the urban centers or services. County and township governments are expected to exercise land use control and handle issues for which they are largely inadequately staffed and incompetently organized. Even in counties where there is a sizeable planning staff and considerable professional expertise, the legal flexibility available and the skill of major developers in pursuing their interests produce one-sided results.

In addition to the inadequacies of the governmental structure in the probable growth areas, most states have consistently included an agricultural exemption in land use regulation covered by enabling acts. Presumably the intent of this exemption is to assure that nonurbanizing uses, such as farming, raising livestock, dairying, and other types of traditional agriculture will not be burdened with the permit and inspection requirements of urban development. This exemption has become the Achilles' heel of agricultural interests. In 1972 the Illinois Agricultural Association realized that this agricultural exemption is probably inconsistent with a regulatory objective of preserving agricultural activity. In fact, they supported a legislative proposal, HB 1123 in the 1972 Illinois General Assembly, which would have included the exemption but specifically authorized county and municipal governments to enact land use controls for the express purpose of preserving prime agricultural lands. It may seem inconsistent from a regulatory point of view to say that this might be an ideal situation: a major economic interest being allowed to continue its operations and, in fact, receive the same type of public sanction and protection from incompatible urban uses that urban uses now receive from incompatible agricultural uses (such as feed lots, poultry operations, and the like). A recent case in Arizona, Spur vs. Dale Webb, Inc.,[4] indicates the viability of this particular approach and may be seen as an opportunity for overall land use control, with significant implications for a planned urban growth and redevelopment.

## Tax-Policy Coordination

The current system of land use regulation has not been coordinated with the realities of state and local tax programs. The pressures of property tax assessment and particularly of reassessment programs, which are legally required, have put development pressure directly on adjacent land. Agricultural use may continue to be a profitable activity and an environmental asset, except for the tax pressure. At least 20 states have developed programs of preferential property-tax treatment for agricultural land, forest land, and other types of specific land areas.

Because of the need for local governmental tax revenue, particularly for school and local highway purposes, local governments have been unable to allow sufficient credits for these types of land uses. In addition to the "urban fringe" impact, studies have indicated that tax-reassessment pressures may be a major inhibitor of private redevelopment and reclamation of property values in the inner-city. The relationship between land use control and taxing programs seems to be clear, perhaps requiring a system of differential taxation.

Differential taxation received a blow in Illinois in the case of the Oak Park Federal Savings and Loan Association vs. Village of Oak Park.[5] A home-rule unit attempted to establish a differential tax district under constitutional authority to redevelop the downtown area. The action was held to be unauthorized by the constitution and contrary to Illinois statutes on uniformity of tax. The same problems exist because of prohibitions against "local and special" legislation in most jurisdictions.

The 1926 model is inadequate in its substantive coverage and antiquated in its procedural format. The model has the following structural characteristics:

1. The state merely delegates authority to local units and thereby shirks its duty and responsibility to the citizens.
2. Local governing bodies, as a matter of survival or normal self-interest, are incapable of dealing with land use development pressures, which offer a tantalizing but evasive source of new tax revenues. The attitude of most local governments toward any new development is that the development will bring in new tax resources; therefore, it should be permitted.
3. The confusion between zoning committees, building commissions, planning commissions, and boards of appeal seems to unnecessarily complicate what could be a relatively simple procedure.
4. The lack of relationships between advisory boards, such as the zoning board of appeal, the planning body, and many others,

often results in the development of conflicting recommendations. Realistically, the main function of such boards is "flack-catching," not advising.

5. Private developers and the courts have become the decision makers in the significant cases that will have a major effect on the future of urban growth and development. They determine complex technical issues requiring expensive development of evidence, generally after a local decision has been made on an inadequate factual basis.

Most units of city, county, and state government are dysfunctionally organized to operate an efficient, responsible, and continuous land use planning program. Since most of the problems cited concerning land use regulation may be related to unnecessary "political baggage" that results in organizational defects, it seems appropriate to outline the essential characteritics of an effective planning structure.

## ORGANIZATION CHARACTERISTICS FOR EFFECTIVE PLANNING

These are some of the basic criteria that may be used to critique the viability of a planning structure and to offer guidance for reorganization.

### Jurisdiction

The jurisdiction of a governmental unit must be complete in terms of its substantive authority and geographic scope. For example, a county government that is given limited authority to deal with the needs and problems of the citizens of the county has a substantive jurisdictional defect; also its geographic jurisdiction effectively prohibits other governmental units from meeting these needs. The same example applies to municipalities, only in reserve.

Home-rule units have nearly unlimited substantive jurisdiction, but their geographical jurisdiction is limited to their incorporated limits. The undue complexity of annexation in the State of Illinois, for example, and the competing interests of nearby municipalities further complicate the jurisdictional problems. The achievement of jurisdictional comprehensiveness in both substantive and geographic areas would, of course, prevent the creation of public-interest vacuums and would offer the opportunity of changing decision making to a shared basis between the concerns of private enterprise and the public interest. In terms of efficiency, jurisdictional comprehensiveness would also be of assistance to governmental units also in the following way.

## Nonoverlapping Units

We all grow weary of hearing that governmental units in Illinios are more numerous than in any other state of the union. Yet this is still true. Measured on a per capita basis, a per acre basis, or a flat numerical basis, Illinois leads all the rest in the number of governmental units.

Although the elimination of overlapping governmental units does not necessarily lead to direct tax savings, it is reasonable to expect at least that administrative economy would result. Why should the citizens of Champaign County be served by 28 or 30 governmental units composed of independent elected officials who are not required to coordinate their functions or their use of fundamental authority to expend public funds, levy taxes, and promulgate and enforce regulations?

Without overlapping jurisdiction, the responsibility for governmental services becomes clearer in the minds of citizens. This relates directly to the next major characteristic.

## Responsiveness

Citizens' understanding of the limitations and authority of governmental units in itself would justify the elimination of many duplicative organizations. The responsiveness and accountability of government is becoming suspect in the minds of many. To be meaningful, responsive government must anticipate needs and develop the resources to meet these needs within a rational system of priorities. The responsiveness characteristic must also mean that a governmental unit should be organized and structured so that it may respond externally to the developments that affect its interest but are outside its corporate boundaries. An intergovernmental communication system would facilitate public interest, which would transcend corporate boundaries. At present, Illinois governmental units are extremely handicapped in their ability to participate in land use planning decisions that affect other governmental units. The Village of Arlington Heights vs. Cook County, referred to earlier again illustrates this need. Aside from the merits of this particular case, it seems that the inability of a governmental unit to voice a legitimate opinion in such an issue is an unnecessarily narrow restriction on the participatory decicion-making process.

## Policy Orientation

Elected officials in government are result-oriented, to the exclusion of policy analyses and evaluation. Making an appropriate division between the development of basic policies and the execution and administration of these policies through channels of communication and authority would produce superior results. A recent survey in Illinois indicates, for example, that as much as 30 percent of a local governing body's time may be spent in reviewing individual zoning and land development cases. A majority of these cases can be typified as routine matters that could be administered routinely and delegated to an appropriate administration level.

If a governmental unit wishes to have a policy of coordinated growth and development, it might better achieve its objective by delegating implementation to an administrative level, one that is not as directly responsive to the political pressures of elected officials. Further, elected officials are responsible for the quality as well as the quantity of results.

The extreme time demands on elected officials, which are inherent in any administrative capacity, tend to relegate policy formulation to second place or to minor portions of time. This predominance of administrative time, with a minimum amount of time for policy formulation, leaves little or no time for evaluation. Continuous monitoring and evaluation of effectiveness is the missing element in most policy programs. The effectiveness of the policy must be reviewed periodically in terms of the policy objectives being sought when the program was authorized.

## Administrative Delegation

Elected officials who concentrate on questions of policy in terms of problems, priorities, and evaluation of the impact of their policies must delegate the administrative fulfillment of their policies. Delegation needs to be precise enough to clearly fix administrative responsibility and to give the authority required to meet the policy objective adequately. In order to achieve this kind of administrative delegation in governmental efficiency, the final characteristic of competency must be achieved.

## Competent Personnel

Governmental service tends to be a much-maligned activity, characteristically viewed with a jaundiced eye by those who have not been directly involved. While much criticism is merited, one tends to find highly motivated and sincere individuals in most positions of authority in local, county, and state government. Having competent personnel can only be achieved through adequate salary schedules, well-conceived qualification standards, and a level of authority and responsibility that will make the job meaningful. The competency of personnel will determine to a large extent the impact of policy programs on the public and whether or not the objectives of the policy formulators will be achieved.

When the combination of the six characteristics given previously is fully realized through an adequate information system (including data on the environmental, social, and economic categories), the characteristics of the effective public service planning system may be achieved. Achieving the characteristics may be possible within more than one model; however, the increasing number of considerations by state government, special governmental bodies, and in some cases municipal government seems to rely on basic models that are outlined in Figures 11.1, the Standard State Zoning Enabling Act; 11.2, the American Law Institute Model Land Development Code Structure; and 11.3, State and Local Land Resources Control System. We will categorize the states (which we are discussing) in three different categories: those which are still in the 1926 mold (and it should be pointed out at this point, that Illinois may be described as a pre-1926 model); the ALI model; and the State and Local Land Resource Code.

## ALTERNATIVE ORGANIZATION MODELS

### Standard State Zoning and Planning-Enabling Acts, 1926 Model

The 1926 standard enabling act, first promulgated by the U.S. Department of Commerce under the direction of Herbert Hoover, recognized that the public had a responsibility to identify its policies and to express its objectives in rather specific terms before indulging its propensity to regulate private property interests. To this end, the Standard State Zoning Enabling Act required that zoning should be "in accord with a comprehensive plan." Illinois does not include this clause in its municipal, county, or township enabling acts. Therefore, Illinois does not even measure up to the 1926 model. Little wonder that

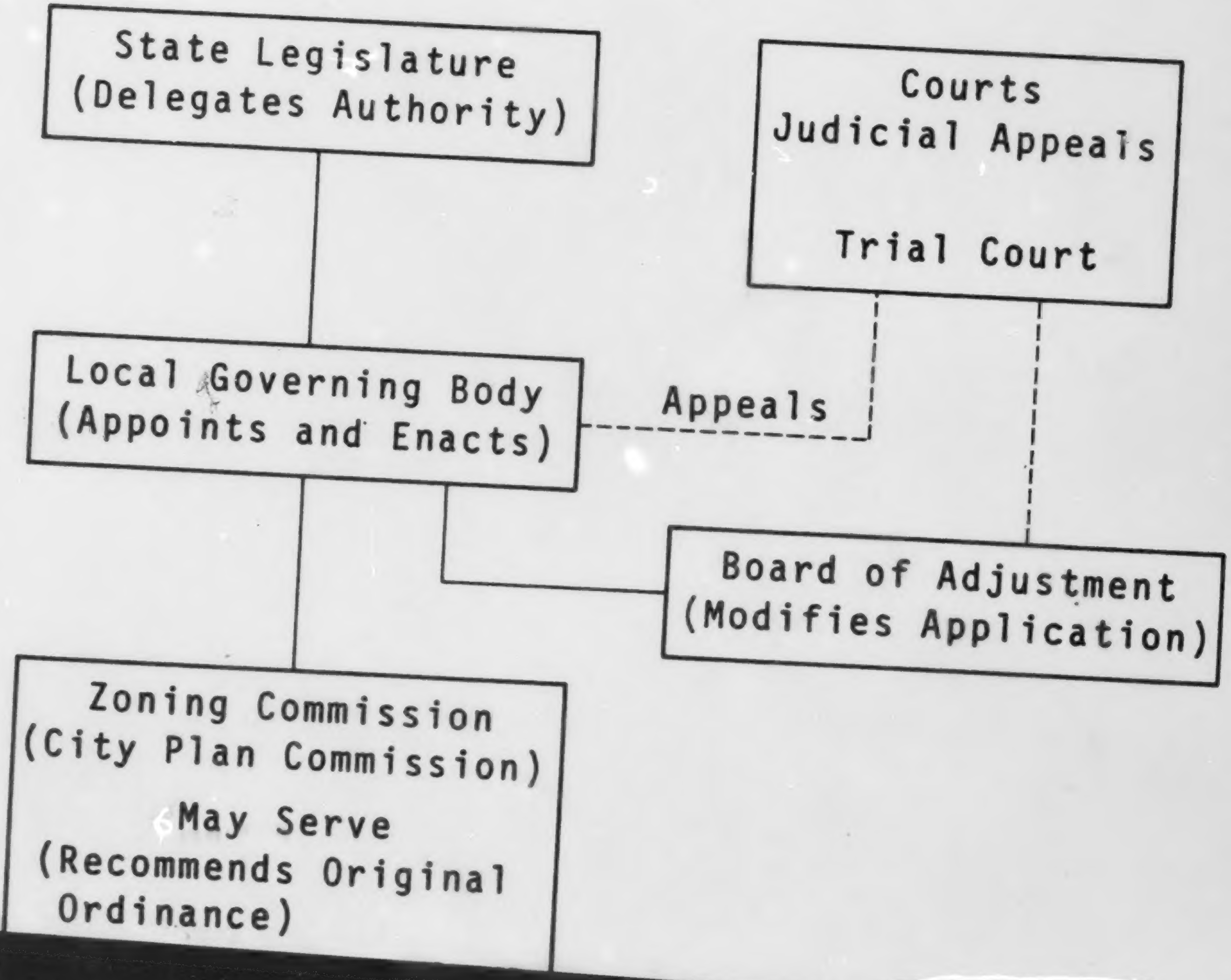


Figure 11.1 Standard state zoning enabling act (1926 model)

State Legislature
(Delegates Authority)
Courts
Judicial Appeals
Trial Court
Local Governing Body
(Appoints and Enacts)
Appeals
Board of Adjustment
(Modifies Application)
Zoning Commission
(City Plan Commission)
May Serve
(Recommends Original
Ordinance)

Figure 11.2 American Land Institute (ALI) model land development code.

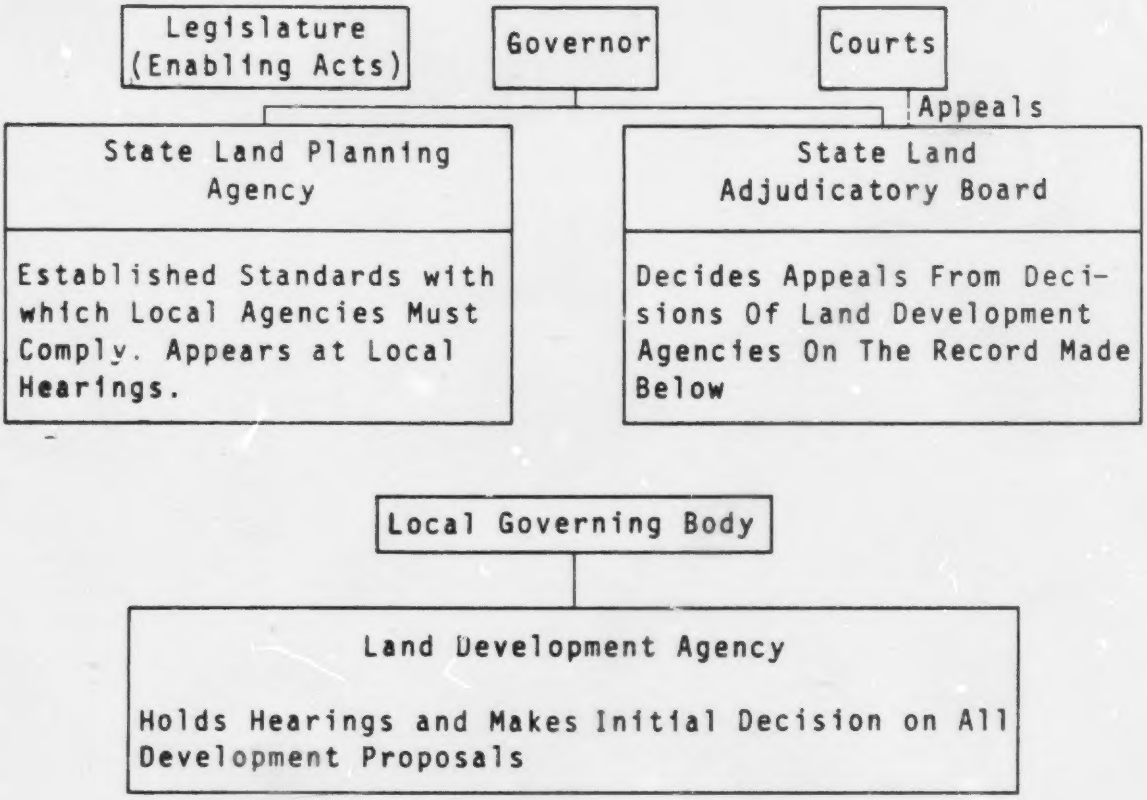
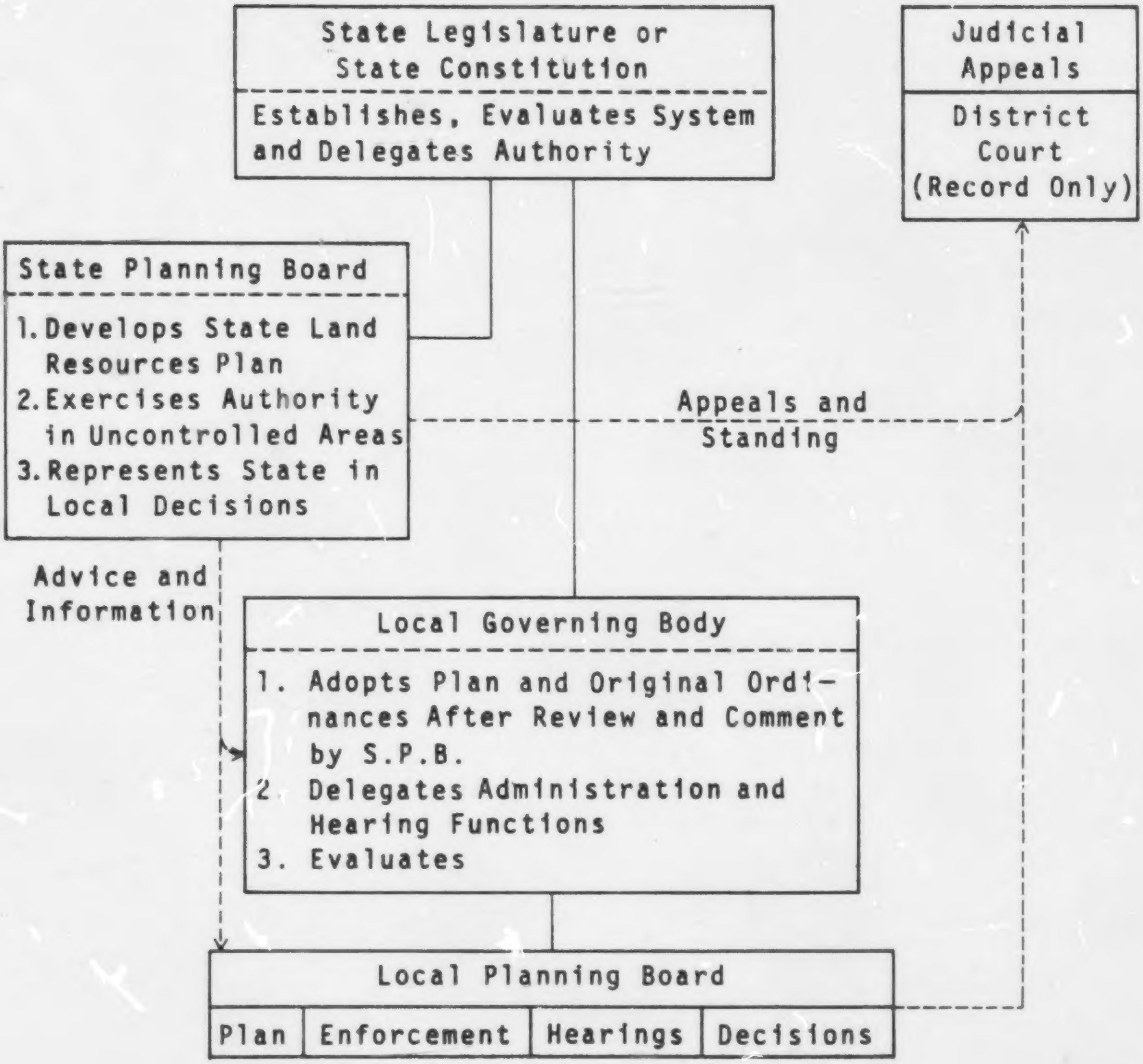

Legislature (Enabling Acts)
Governor
Courts
Appeals
State Land Planning Agency
Established Standards with which Local Agencies Must Comply. Appears at Local Hearings.
State Land Adjudicatory Board
Decides Appeals From Decisions Of Land Development Agencies On The Record Made Below
Local Governing Body
Land Development Agency
Holds Hearings and Makes Initial Decision on All Development Proposals

Figure 11.3 State and Local model land resources control system.


State Legislature or State Constitution
Establishes, Evaluates System and Delegates Authority
Judicial Appeals
District Court (Record Only)
State Planning Board
1. Develops State Land Resources Plan
2. Exercises Authority in Uncontrolled Areas
3. Represents State in Local Decisions
Appeals and Standing
Advice and Information
Local Governing Body
1. Adopts Plan and Original Ordinances After Review and Comment by S.P.B.
2 Delegates Administration and Hearing Functions
3. Evaluates
Local Planning Board
Plan
Enforcement
Hearings
Decisions

the nature of the land use regulation in Illinois may be characterized by the highest condemnation in meeting all ten of the general problem areas more completely than perhaps any other state.

## ALI Model

The most fully developed model and the one that will soon be considered by the prestigious American Law Institute (ALI) is the Model Land Development Code. It is interesting to note that the primary reporter of the project in discussing it rarely indicates the relationship of the state legislative and judicial systems to the Model Land Development Code.

The ALI proposal would lead us to a higher resolution of land-development problems than any other model seen to date. It does involve the creative use of legislative authority. It authorizes the governor to create the State Land Planning Agency and appoint its members, who will establish standards with which local agencies must comply. The State Planning Agency could participate at local hearings. It also creates a State Land Adjudicatory Board, which would decide appeals and take the burden of judicial review from the judiciary and place it in a specialized hearing body.

The ALI code leaves primary authority for land use decision on a day-to-day basis with the local governing body. The important question here involves whether or not a local governing body has the capacity to make decisions authorized by the code. If a case is of more then local concern, the State Land Planning Agency becomes an active participant in the hearing and may seek to override a local decision through the State Land Adjudicatory Board.

The model has weaknesses, and these should not be minimized. The State Land Adjudicatory Board is subject to appeal to the Judicial Branch. The draft is not yet clear, but it would appear that the best method would be to require an appeal to an appellate court rather than to a local trial court. This, at least, would not result in the repetitive, intermediate-administrative appeal syndrome--which can only result in more complexity and procedural delay and a greater confusion of development issues.

The State Land Adjudicatory Board carries to the state and regional level the same defects that now plague local zoning boards of appeal. That is, they are insufficiently related to the planning process and have no necessary background in the preparation of the plans and the objectives of those plans. Since the body is quasi-judicial, there is some question of whether there needs to be an intermediate administrative body at all.

### State and Local Land Resources Code

An alternative to the ALI model, the State and Local Land Resource Code, has a great deal of similarity but some major distinctions. The first distinction is that the model would clearly result in the direct involvement of the legislative branch of government. This model does not exclude the executive branch, since the Chief Executive would appoint the chairman of the State Planning Board and three of its members.

Three would be appointed by the Speaker of the House and three by the Chairman of the Senate. The State Planning Board would have many of the functions of the ALI State Land Planning Agency. It would also have the following major distinctions.

First, it would be informational and advisory only in relation to local governing bodies; there would be no attempt to pre-decide what types of land use decisions are "of more than local concern." Any attempt to predefine these types of decisions would probably result in intermediate litigation on the issue of whether or not a proposed use would be of more than local concern, thus creating procedural difficulties and additional delay. Therefore, a mechanism is proposed that would allow direct appeals to a trial court from a local planning board.

Second, the local planning board would be delegated administrative authority within the policies established by the local governing body. In all appeals to the trial court, the State Planning Board or its regional representative, as the case may be, would be granted standing and could participate in the law suit as a representative of nonlocal interests or unrepresented local interests--that is, an independent but public interest-oriented voice would be heard in the resolution of land use decisions.

This major distinction from the ALI proposal is considered to be a viable alternative. It is based in part of Sax's article on observations of the State of Michigan [1]. This article indicates that where the judicial system has been used pursuant to a broad standing rule to participate in litigation, cases have been disposed of properly and with greater dispatch and authority than was the case under the administrative law approach prevalent in environmental regulation. If this appellate court function is to be absorbed by district courts, care must be taken to assure that the court does not become overloaded with appellate decisions. If a carefully prepared plan and documented policy has been promulgated by the local elected officials and delegated administration to a concerned planning body with broad-based public participation, the quality of decisions at the local level would be likely to improve so much that the number of appeals might be reduced.

Although this ideal might be difficult to attain and might work against some local interests, the primary thrust would be in achieving a system of controlled assurance so that, until some major public interest is identified, the district court would maintain stability in the development of an area.

## CONCLUSION

To achieve some of the objectives of a rational land planning function for state government, certain basic legislative considerations must be addressed. The most important of these is the need for a firm expression of philosophy on the nature of land. In order to meet the problems expressed earlier under the land as a commodity mentality, the following language is recommended for legislative inclusion:

"Land" means the earth, water, and air above, below, or on the surface; and "land" includes any improvement of structures customarily regarded as land. The breadth of this philosophy is included in the ALI model and closes possible gaps in land use control that are inherent in a less comprehensive definition. The definition, of course, follows the adcholem doctrine that property interests go from the center of the earth to the heavens. If this is true, and it is still theoretically true in American jurisprudence), then the nature of control must be commensurate with the nature of property rights.

In addition, the definition of land use should be as follows: "Land use" means the development that has occurred on land or the use to which open land is devoted. So the combination of "land" and "land use" would tend to foreclose deviations for planning control. A general legislative need must be met in assuring that governments at all levels have given adequate consideration to the social, economic, and environmental needs of its particular area and region and of the state as a whole. Any lesser level of decision making would inevitably result in arbitrariness and in inadequate factual analysis. Topics for which state policies need to be developed would come under the following headings:

1. Conservation
2. Antipollution
3. Natural areas
4. Property value
5. Historic preservation
6. Building and area character
7. Flood damage protection
8. Relationships of land uses
9. Standards for quality environment

10. Efficiency of location and uses
11. Public facility relationships
12. Sequences of growth
13. Economic diversity satisfaction
14. Housing and employment opportunities
15. Nondiscrimination
16. Energy resources development and conservation

These essentials of a land use planning system are directly related to the need to reestablish confidence in the average citizen's ability to have an effect on his destiny and his government's ability to prevent adverse effects and preserve what is deemed to be worthwhile by a majority.

## FOOTNOTES

1. 113 Ill. App. 2d 336 (1969)
2. 13 Ill. App. 3d 230 (1974)
3. 48 Ill. 2d 11 (1971)
4. 108 Ariz. 178 (1972)
5. 54 Ill. 2d 200 (1973)

## REFERENCES

1. Sax, Joseph L. 1972. Michigan environmental protection act of 1970. Michigan Law Review 70:1,003.

## CHAPTER TWELVE

# Linking Research with Planning: Some Implications and Approaches

RAYMOND D. VLASIN

OBSERVATIONS about several areas or approaches that appear necessary in making research, planning, and education for public services more effective are dealt with in this chapter. Some observations are given on trends that affect community services improvements as well as broader aspects of community and regional improvement. Next, some areas of concern that must be addressed by those involved in research and planning as well as others are highlighted. Suggestions for specific possible actions involving research, extension education, and planning personnel for increasing effective action toward public services improvement in rural areas conclude the chapter.

## TRENDS AFFECTING PUBLIC SERVICES' IMPROVEMENT

There are a number of trends that affect various aspects of public services' improvements in rural areas. These same trends affect natural resource development as well as economic development and the broader aspects of community and regional planning and development [13].

One key trend is the increased deliberate planning for and guidance of a wide range of land uses, resource uses, and public services and facilities. It encompasses such items as urban expansion areas, highway and street locations and extensions, airport services, recreation services, sewer and water services, waste disposal, law enforcement, fire protection, health care and emergency services, vocational education, and others. More recently there have been efforts to extent such planning to still other areas, such as all forms of public education; the expenditure of charitable funds for human services; integrated welfare services; rail services; comprehensive transportation services; land reservations for agriculture, forestry, minerals, and recreation; utility plant siting; utility corridors; and environmentally fragile areas. The trend is clearly toward more, not less, deliberate planning.

A second key trend is the increased interest and demand that planning and guidance occur in such a way that local leaders and groups can participate in decisions about their future. These demands for local participation run the gamut from decisions about health care for the elderly to comprehensive community and regional decisions about the quality of life. Local concern about decicion making extends to decisions made at the state and national levels as well as those made closer to home.

Third, there is increasing recognition of the fact that rural and urban America are neither separate nor unrelated. Planners, educators, analysts, policy makers, and laymen are observing the increasing number and types of demands on rural area services and resources that emanate from urban and metropolitan areas. They are recognizing that the lack of rural-based opportunities lead to increased urban migration, growth, and impacts. There also is an increased recognition by research colleagues that some of the real problems regarding demand and supply of services result from the linkages between rural and urban areas.

Fourth, there is a sizable if not growing national and state concern for the expanding urban agglomerations and for ways of upgrading the quality of life in urban areas and meeting expanding energy needs. Because of these concerns, various communities and states are raising questions about whether they want to have added population growth, and if so, how. Some are taking specific actions to retard growth. In other instances, voluntary out-movement from metropolitan areas is creating new demands for housing and associated residential and municipal services.

Fifth, associated with other trends is the increased concern for rural-urban population balance and strengthened rural development to foster it. This interest in economic and social revitalization of rural areas to provide a base for an improved rural-urban balance can be seen at the federal, state, and substate level. While one can quarrel about the importance given it and the funds provided to foster it, the increased interest is real.[1] There is a parallel interest in the economic and social revitalization of urban areas.

Sixth, there is a continuing growth in the number and strength of multi-county and multi-community regional mechanisms. Some of these are long standing, such as conservancy districts, flood control districts, resource conservation and development districts, and economic development districts providing various services. Recently added to these are various multi-county regional planning agencies, state administrative districts, planning and development districts, councils of governments, and such special purpose districts as health planning, law enforcement, vocational education, education service, mental health service, and others. There may be more substate districts on the way as one looks at proposed solutions to environmental maintenance and water and waste development and control.

Seventh, there are more and more public and private agencies and groups concerned with or involved in aspects of development, including services improvement. Those involved and concerned come from all manner of educational institutions, from a wide array of resource-oriented groups and agencies, from a host of voluntary and service groups, from public and private utilities, from private business and industry, from labor groups, and from federal, multi-state, state, substate, and local governmental units. The trend appears to be for even more groups to be concerned or involved in some aspect of development.

Eighth, there also is an increased tolerance toward the several forms of development and an increased understanding that they must somehow be blended. We must interrelate (1) improvement of community facilities and services; (2) use and improvement of our natural resources and the natural environment; (3) economic development of nonagricultural as well as agricultural industries; (4) people-building through such efforts as improved education, career, and skill development; and (5) improved institutions to deal with these various concerns.

Not all the trends or conditions that affect development, including community services improvement, are positive. There still exists a tremendous competitiveness among rural communities, between rural communities and the larger growth centers, and among subunits of the metropolitan areas. Some competitiveness leads to innovative experimentation. However, intensive competitiveness also can be devisive and inhibit cooperative efforts toward sound development.

Further, there is a patchwork of taxing procedures and situations, as well as other institutional devices and resource use procedures, that blunt efforts in planning and implementing service improvement as well as sound economic development and improved use of our natural resources. Still other important trends could be added. The ones I have enumerated are of major importance and do lead to some areas of concern that confront all involved in improving community services.

## AREAS OF CONCERN

The public services issues do not stand in isolation from other community or societal issues. They are interrelated with the range of environmental concerns, other human resource concerns, natural resource development problems, economic development problems, and the broader range of concerns pertaining to a quality of life. Neither do the public service issues respect any discipline or professional lines. Unfortunately they, as so many other public issues or problems, are multidisciplinary or pan-disciplinary in nature. Further, public service issues can be and frequently are multi-occupational in nature as well. They may simultaneously involve or affect educators, extension personnel, researchers, planners, government officials, business, labor and industry leaders, utility representatives, agency administrators, agency enforcers, charitable groups, civic groups, and others. Given these considerations, I have chosen to approach some of the concerns relating to public services rather broadly.

## Developing Clearer Policy Goals and Operational Targets

One of the first issues, and possibly the most fundamental and pervasive, is how to develop clearer goals and operational targets for public services in rural areas. Public services do not stand as an end in themselves; they constitute means toward other goals or ends.

We might improve services and facilities to enhance the well-being of particular persons-tourists, all permanent residents, some permanent residents, people moving into an area for jobs, people retiring in the area, or some combination of these and others. We might improve public services because they will enhance the community for economic and industrial expansion. Or we might improve services to cause an entire community or region to grow, or part of a community or region to grow, or even because they will inhibit some change or preserve some feature for consumers. However, time and time again we see the lack of clarity, visability, agreement, and understanding of goals necessary to provide a basis for complementary action.

We have an arsenal of funded programs that affect public services improvement as well as other aspects of community and regional development [2] . They include direct federal programs, federally assisted state and local programs, and self-financed state, substate, and local programs. The expenditures are quite massive. There are other charitable, civic, and association programs also backed by financial and service support. But despite this arsenal of public and private programs, we are truly short of clearly defined policy goals and operational targets for action.

Thus a first and most basic issue is the need to explore ways to develop clearer policy goals and operational targets for community and regional development decision making and, within those, some specific objectives for public services, such as research and education opportunities at the state, substate region, and multi-state regional levels. We need to explore what has been done in developing clearer policy goals, the apparent successes or gains, how those involved went about it, the outcomes, and what additionally might have been done to advantage.

The need to develop clearer operational targets at the substate regional level and the local level should be part of this effort. Development of such operational targets could help address the range of issues associated with local economic growth or limitation, including locating economic activity within substate areas, locating supporting facilities and services within substate areas, and developing specific guidelines for implementing improved facilities and services. The need for such operational goals and targets is particularly acute at the multi-county and multi-community levels. Likewise, the potential benefit at these levels appears to be high.

Specific multi-county and multi-community goals or targets could provide a basis for determining what to do, what to do now, and what to do next. They could provide a concrete basis for meshing assistance for services improvement available from public programs and from nonpublic sources including private, charitable, religious, foundation, and other sources. They could provide a basis for assessing progress and effectiveness of action.

Developing clearer policy goals and operational targets for community and regional development and for services improvement as a part of that development will not be easy. Many people appear reluctant to discuss goals for action. The process of developing goals and targets may lead to controversy. The problems of meaningful local participation are real. However, it is an important area for analysis and action as well as a potentially fruitful area for both researchers and planners, because it necessitates from the outset a close cooperative relationship with policy makers. Unfortunately, the trend described earlier toward more deliberate planning may simply end in expensive frustration unless we do achieve clearer policy goals and operational targets.

## Local Participation and Preferences in Public Service Decisions

A second broad area of concern, closely allied with the first, is how to insure meaningful local participation in decisions. Clearly, the public service policies and program decisions must benefit the various actual and potential users of those services or service outputs. Achieving this orientation in policy and program is difficult. Achieving it without local participation by those affected is likely impossible.

A great deal more could be done in the matter of solicitation of local preferences and the communication of those preferences to policy makers, planners, providers of services, consumers of those services, and the public. There is much talk at the multi-county or multi-community level and at the local level about the desirability of some local citizen participation. There is also much talk about the importance of the preferences of persons for whom the services are intended. However, all too often we have neither a clear plan nor a clear arrangement to insure the effective and efficient solicitation of local information from actual and potential users. We plan "for" rather than "with" persons to be served. We plan for them without quantitative information about their perceptions of problems and opportunities, their preferences about them, and their suggestions concerning possible alternatives for action.

We need to perfect and apply "quick turn-around" survey techniques that planning agencies and educators can use for measuring local preferences.[2] The results of the surveys could be used in improving planning for specific services and in complementary public education and information programs.[3] In reviewing both planning and public education, I observe major potential gains for improved decision making and actions to enhance public services from such innovations.

We should not overlook possible research and development efforts on new technology that may be used in obtaining community and regional participation by consumers or users of public services. For example, the cable that carries CTV into the home could carry out occupant's responses and preferences. Communication technology has been harnessed to serve us for other purposes--why not for improved local participation in decision making regarding public services?

Demands for local participation in decision making are increasing. They encompass a broad range of public and private activities, including improvement in public services. However, the demands alone will not achieve the measure of realistic and meaningful participation desired. An efficient and effective system of soliciting local preferences is required. Additionally, those preferences concerning public services must be effectively meshed with analyses of what is possible at the community and regional levels. Results of both preference surveys and analyses of what is possible need to be a part of the education and information process with those affected and the public at large. A complementary effort in research, education, and planning appears fundamental for success.

## Resource and Environmental Conditions That May Constrain Economic Development and Public Services

A third area of concern is our inadequate consideration of environmental conditions that constrain regional and community developments. Environmental conditions constrain the ability of a community or region to support human use, support production and services, and assimilate by-products and wastes.

For a variety of historical reasons, much of our development planning, decision making, and implementation has been quite separate from our more recent environmental planning, decision making, and implementation.[4] This separation has existed at the federal and state levels. What planning did occur in environmental matters was carried on in agencies independent of production-oriented agencies both at the federal and state levels. The separation occurred also at substate regional and local levels. This separation has existed in the governmental sector, the private sector, and in the citizen group and voluntary sector.

There have been some notable exceptions. For example, many soil and water conservation districts have attempted to integrate economic development decisions with environmental improvement decisions. Likewise, some economic development districts have given particular attention to both economic development and environmental concerns. Resource conservation and development districts also have attempted to integrate these two concerns. However, we have little documentation about what specifically was done to integrate these concerns, how well it worked, and what might have been done additionally and its likely consequences.

This separation of economic development decisions, including public services improvements and environmental improvement decisions, need not continue. There are many opportunities for integration of these decisions at all levels of government, as well as between the public and private sectors. Some of the key gains can be achieved at the local level. Here we need to research current and possible new agency and group procedures, new institutional devices, new forms of technical assistances, and new incentives as well as safeguards to bring about such integration.

There appear to be major potential gains from such integration at the substate regional level as well. Colleagues in environmental sciences have found that environmental capabilities are regionally specific [10]. They have found that substate regions can and must be treated differently if one is to take advantage of the region's ability to support agriculture, forestry, mining, and other economic activity; to support human uses for residence, transportation, recreation, and other service needs; and to assimilate wastes [3]. Further, their experiences and mine have shown that adverse environmental effects of an economic development project or public service project can be minimized if environmental considerations are an integral part of the location and design decisions for the project.

These improvements will require the closest cooperation between researchers and planners. Both researchers and planners who have struggled with integrating economic development, public service, and environmental improvement decisions will admit we are short of necessary descriptive and analytical tools [6, pp. 183-215 and other chapters]. We are lacking practical measures that planners can use to determine such conditions as fragile environments, irreversible environmental change, resilient regions, ecological limitations, species diversity, and prime agricultural land, to name but a few. Also, we are lacking in techniques for effectively integrating planning and management of ecological areas with the planning and management of governmental jurisdictions.

### Improved Measurement and Use of Linkages in Organizing for Public Services

A fourth area is the need for improved measurement and increased understanding of the linkages between groups of communities or groups of counties. For some time now we have been aware of transportation linkages, retail and wholesale trade patterns, and labor commuting patterns that tie different communities together. However, there are a number of additional physical, environmental, economic, social, cultural, legal, and other institutional and administrative linkages that tie various communities together. For some of these, such as recreation services, communications, educational services, economic services, and family assistance services, we have little up-to-date information and understanding. Identifying and understanding the linkages are particularly important in designing arrangements to meet service demands through intergovernmental cooperation.

Rural demands for urban services have increased over time. These demands include such areas as water and sewer systems, better roads and road maintenance, quality care for the aged, increased vocational and career training and education, improved elementary and secondary education, improved health care and emergency services, and solid waste disposal. The direct costs of providing urban services to rural people typically have been higher on a per capita basis than providing the same services to concentrations of people in urban places. One viable means of keeping public service costs to a minimum in rural areas is through intergovernmental cooperation among counties and between counties and their central cities [15].

Ideally, the type of intergovernmental cooperation that is undertaken should be economically efficient and serve to strengthen existing linkages among counties or communities rather than frustrate them. However, our knowledge of the number, type, and strength of physical, environmental, economic, social, cultural, legal, and other institutional and administrative linkages appears very limited. If one looks behind the criteria used in delineating multi-county and multi-community regions for planning and development purposes, one finds instances in which the various linkages were not well identified and used. However, in a 1970 Wisconsin effort, the delineation and use of extensive data on linkages proved to be both crucial and effective in the revision of state administrative districts and in the subsequent creation of compatible regional planning units [14].

Again, opportunities exist for public benefit through collaboration by researchers, planners, and extension educators. Together they can identify and measure the actual and potential linkages, use those results in identifying alternative intercommunity and intercounty service groupings, and convey the results to governmental leaders, decision makers, and the public for information and action. The successful Wisconsin effort involved a very close working relationship among planners, researchers, and educators. Together they shared in designing and conducting technical studies, in presenting findings to a wide array of interested officials, leaders, and citizens, and in suggesting possible actions [12].

### Analysis and Improvement of Multi-Jurisdictional Units

Still another concern is our lack of understanding about the array of multi-jurisdictional planning and development units. We need greater understanding of their purposes, performance, and possible improvements for effective and efficient public services. We are fast approaching the time when the entire nation will be blanketed by multi-jurisdictional units for special-purpose and multi-purpose functions. Overlapping of these multi-jurisdictional units also will be common.

The multi-jurisdictional units for planning and development have a variety of origins. Some are created under authorities of federal agencies and federal programs. Others are created through executive order by the governor or through administrative actions by state agencies. Some are created by legislative action. Some are formed through joint action of local governmental units. Some emerge as nonprofit corporations with local support.

These multi-jurisdictional units carry a variety of names which reflect their varied purposes.[5] They include planning districts, planning and development districts, regional planning commissions, administrative districts, development districts, local development districts, economic development districts, councils of government, resource conservation and development districts, and others. They also include an array of special purpose districts, such as for soil and water conservation, flood control, water supply, waste disposal, law enforcement, health, vocational training, educational services, environmental protection, and other purposes.

The units differ greatly in their relationship to various other governmental units-federal, multi-state region, state, county, municipality, and town or township. They display differences in their authorized or assumed roles, as well as in procedures they employ in carrying out those roles. Regardless of their variety, these multi-jurisdictional units have a major role in planning, developing, and providing public services.

It would be a disservice to our thinking and action to treat this wide array of multi-jurisdictional units as homogeneous. Much is to be gained by focusing on the viable and necessary differences among them. Needed are careful analyses of possible alternatives for providing single public services or groups of public services in a multi-jurisdictional setting. Central to this effort are possible efficiencies and economies in providing the services and in the use of those services by actual and potential users. Case analyses are needed to determine local circumstances under which different alternatives proved to be efficient and economical. Case analyses also are needed to determine local circumstances under which quality, availability, and access to services were achieved and users were effectively involved in decisions about their services.

For those multi-jurisdictional units that embody a community planning function, some special inquiries are in order. One is the effectiveness of the multi-jurisdictional unit in providing a community planning service to local governmental units that do not possess it. Another is the effectiveness of the multi-jurisdictional unit in providing technical analyses of the likely impacts of proposed projects-both large regional projects and local projects. Still another is the assistance to local governmental units and citizens in exploring viable options about their futures-options they might not otherwise consider. Another is the role the multi-jurisdictional unit serves in increasing multi-unit cooperation and decreasing devisive competitiveness among communities that have need to cooperate. The multi-jurisdictional unit may also foster the identification of linkages that tie communities together or that tie small communities to larger urban centers.

Needed also are analyses of how the multi-jurisdictional units might be adjusted over time. One can find instances in which such units have been created without any specified process for subsequent review and modification of boundaries or functions. It is possible to design procedures for systematic reviews of multi-jurisdictional units, specifying nature and time of review, extent of citizen involvement via public hearings or citizen committees, surveys to be conducted of preferences by local governmental units within the unit or lying outside but adjacent to it, and steps to be followed in modification of boundaries and functions based on findings. Such procedures can help to avoid concreting multi-jurisdictional units in the way we have inflexibly solidified county boundaries in the past. It appears that flexibility will be achieved only by instituting procedures for subsequent review and modification at the time the multi-jurisdictional units are created or during their early existence.

However, the best procedures for any one unit will undoubtedly differ based on the nature of the functions and the geographic and governmental settings. For this reason, analyses of possible means of adjusting multi-jurisdictional units under differing circumstances will be required. Again, close cooperation of researcher, planner, and extension educator will be advantageous.

## Divisibility of Public Services

The efficient and effective divisibility of public services is another broad area of concern. It involves the nature and location of various services or service functions and activities. It is one of the topics addressed directly by Professor Elinor Ostrom in her work on the effects of community size on planning and providing various public services.[6]

One hears frequently about the possibility of townships and counties "withering on the vine" as certain public functions are reallocated or reassigned to multi-county units. The reason given is the possibility for increased economic efficiency for public agencies in providing the services. However, often overlooked are such features as access by users to the services, opportunities for user inputs to decisions about those services, and unique local adaptations concerning the nature and availability of those services. There are in fact examples of creative things that can be done at very local levels to provide low cost and flexible public services that are responsive to users.[7]

Researchers, planners, and extension educators should systematically inquire into what types of services and what groups of services and combinations in services can be provided effectively at the local levels. Where creative public service efforts have been achieved locally, analyses should be made to assess public agency and user cost, access to and availability of services, and opportunity to influence decisions about those services. We need to do more also in identifying effective means for sharing responsibility and decision making about public services at the different levels of government. To date, we have had but limited research on effective means of sharing planning, decision making, and action on public services among the different governmental levels.

## Inter-Jurisdictional Arrangements and Agreements

Another area that deserves added attention is inter-jurisdictional arrangements and agreements for providing public services. They range from formal contracts between two or more offices on specific public services to informal agreements to consult with each other on common problems or common interests.[8]

We are probably aware of only a small fraction of the innovative arrangements and agreements that have been forged to date for each of the public service areas. Informal procedural adaptations may involve regular exchange of information about common problems, sharing of machinery and equipment, sharing of technical personnel, exchange arrangements for supplies and personnel, or pooled purchasing of supplies and materials for volume discounts. Informal reimbursement arrangements also may be involved.

Formal service contacts may be used to provide or acquire a particular service. This might extend to use of machinery or equipment or to use of technical personnel. Or it might cover a specified amount or type of service, such as for water supply, waste disposal, police protection, fire protection, road maintenance, or planning services. It may or may not have safeguards for supply problems that might confront the providing unit. The number of buyer-seller relationships possible are both numerous and varied.

Joint or parallel actions by two or more governmental agencies or units constitute another form of arrangement for providing public services. These arrangements may involve continuous joint enterprises or partnership arrangements, such as for waste disposal, water supply, or planning services. They may involve the creation of special service units to serve two or more governmental units, such as through the creation of a cooperative agency to provide specialized educational support services. Or, they may involve agreements to take common action, such as to build a common road crossing two or more governmental units, build and maintain a city-county airport, or build and operate a city-county office building.

There are still other arrangements that may be used to foster improved public services. One is creation of area or regional councils to facilitate discussion of problems and opportunities and exploration of possible cooperative approaches. Another is creation of compacts between two or more units for reciprocal action, especially when the units are situated in two or more states. Functions may be shifted from one governmental unit to another, usually from a smaller unit to a larger one that can provide more comprehensive service. Various extraterritorial arrangements also may be formalized whereby water supply, waste disposal, and planning and zoning services may be extended beyond a municipality's boundaries. Incorporation is another arrangement which citizens may use to deal with service problems. Creation of special service districts, such as for water supply, conservation, waste disposal, and police services, constitutes still another approach to deal with specific problems. Service improvements also may be a part of larger governmental reorganizations, as in creation of city-county government, regional councils of government, or multi-county planning and development districts.

The present arrangements and agreements are capable of systematic analyses. We can do far more to assist local governments as they seek to effectively provide public services to their constituents. Through analyses we can assist them in providing public services that are accessible, economical, and responsive to user needs. Close cooperation by planners, researchers, and extension educators would greatly facilitate both the analyses and their effective application.

## Coordination of Services

The cry for "more coordination" is heard in discussions about public services improvement, about the broader area of rural development, and about the actions by different governmental levels to achieve them. This concern is often based upon the assumption that someone or some unit at the federal or state level can effectively integrate the many federal and state programs. In fact, we have seen efforts based on this assumption to develop federal program coordinators in some of our large cities and in various states.

I believe we are beginning to learn that coordination of public programs in the abstract is not very effective. The type of cooordination that seems to be most effective is coordination toward something specific. It is coordination toward a specific objective, goal, or target, or coordination toward a specific group, community, or area's needs.

As the purposes for coordination become clearer and more specific, the opportunities for effectiveness in the coordination increase. It is at the more local levels that the clarity and specificity of purpose become possible. At local levels it is possible to select effectively from among available and applicable federal and state programs and assistances to achieve specific purposes. It is possible to integrate complementary public programs and private actions by business, industry, and labor. At the local levels it is possible also to integrate such programs and actions with other voluntary, civic, and charitable efforts of a directly complementary or supplementary nature. Effective mobilization of these voluntary, civic, and charitable efforts is frequently overlooked in development.

Not all local efforts at coordination will be smooth or easy. Occasionally confusion and even hostility exist between those that have responsibility for a specific service and those having responsibility for a group of services. Instances can be found, for example, where those responsible for health planning and those responsible for comprehensive community or area planning have been at strong odds over roles, responsibilities, and planning services to be provided to communities and the public.

Much could be gained from analyses of conditions necessary for effective coordination in planning public services, in implementing those services, and in evaluating service effectiveness. There are instances in which coordination has taken place among various public, private, civic, charitable, and voluntary efforts to achieve service improvement or rural development. Cooperative analysis of such experiences by researchers, extension educators, and planners could be highly beneficial for other communities. Other communities and groups could benefit materially from knowing what substantive coordination was possible, what factors lead to its success, and how it could be emulated or instituted by them.

## SUGGESTIONS FOR INCREASED MUTUAL ACTION

Previous sections of this chapter have indicated trends and concerns affecting public services improvement. Specific areas for concerted efforts by researchers, extension educators, and planners were enumerated. This section sets forth some additional suggestions for mutual action. It addresses directly the nature of possible interrelationships.

### Exploring and Perfecting Different Levels of Cooperation

Improved working relationships could be forged among researchers, extension educators, and planners at several levels-from the federal level to the local levels, involving a county, a municipality, or even a neighborhood. Certainly there is need for cooperation at the federal level, where broad federal guidelines for rural development policy are being formulated. A similar need for cooperation exists at the multi-state regional level where regional policy boards or commissions may be required to attack such problems as settlement, migration, or transportation simultaneously involving several states.

The state level presents many opportunities for cooperation. The more effective operation of state boards and commissions involving various public services presents one clear challenge. Statewide planning efforts of a comprehensive nature or for specific functions, such as health, housing, transportation, recreation, job creation, and manpower utilization, provide a wealth of opportunities for fruitful cooperation. The development of state policy guidelines for rural development, state agricultural production, and land use planning and guidance present still added opportunities for effective cooperation among researchers, extension educators, and planners.

The multi-county and multi-community levels, as well as single-county and municipal levels, present a wealth of opportunities for positively enhancing public services. Cooperation could focus upon regional and local comprehensive planning and functional planning approaches, regional and local investment strategies for facilities and services, reduction of user costs, and increased user access. Cooperation could focus upon citizen perceptions of problems, citizen needs and preferences, and citizen input to and reactions toward alternative regional and local plans and actions. The design of appropriate data and information systems, the analysis and dissemination of that data and information, and the design and conduct of public educational efforts present still other opportunities for effective cooperation at substate regional and local levels.

The opportunities for cooperation have never been better. Through some farsighted federal, state, and local action, we are blessed with Cooperative Extension Services in each state. These units include state and area specialists and multi-county and county-based agents that are directly concerned with the various aspects of rural development, including improved public services. Likewise, our Agricultural Experiment Stations and their cooperating units are increasingly fostering research on various aspects of rural public services, including transportation, health care delivery, improved housing, improved water supply and waste management systems, improved emergency services, and improved energy use, to mention but a few. Personnel associated with these research and extension units present a wealth of skills and knowledge which should be fully utilized by planners at all levels of government. Their involvements at the substate regional levels and county and municipal levels present unique opportunities for regional and local planners.

## Developing Increased Understanding of Concepts, Approaches, and Terminology

There are substantial knowledge gaps between scientists and lay citizens, particularly in such areas as environment, resource development, rural development, and design of public services. The gap between the knowledge base and its application by the planner likewise can be large, as can the gap in understanding between researchers or extension educators and the practicing planners. The explosion of information, knowledge, and new techniques is a major cause, with each professional having difficulty keeping abreast of his own field, yet alone those developments in allied or complementary fields.

A second important reason for the gap in understanding is the difference in orientations and perspectives of planners, researchers, and extension educators. Major differences exist in the concepts used, in the professional approaches applied or followed, and in the terminology that provides specific meanings and communication efficiencies within the professional fields.

Probably nowhere are conceptual differences more pronounced than in the environmental field. Concepts such as transformation process, natural ecosystem, spatial heterogeneity, stability, diversity, and irreversible change have meaning and application in the research field, but they are receiving little application in regional and local planning efforts [6].

Professional approaches differ greatly as well. Often planners and engineers who develop and implement plans draw upon their professional backgrounds and technical knowledge and arrive at their "best plan." They carefully explain this plan and in fact may promote this plan to the exclusion of others that might have been considered. By contrast, extension educators, particularly those involved in community or rural development education, frequently foster discussion of a wider range of public options and public choices. They also tend to place a greater emphasis on early public participation in the planning process as well as an active public involvement in the selection among possible alternatives. This difference in approach alone between planners and extension educators has led to confusion and occasional conflict.

Terminology also is a source of confusion among professionals in the three fields. Planning terminology, such as sketch plan, physical planning, social planning, master plan, capital budgeting, open space, undeveloped land, aesthetics, have special meanings as used by planners. Planners may convey one meaning to a researcher or extension educator and hold a very different meaning as they use the terms.

Efforts to increase understanding regarding concepts, approaches, and terminology can strengthen cooperative efforts. Such efforts can serve to enhance understanding at the same time they open new opportunities for complementary action benefiting the public.

## Undertaking Specific Cooperative Actions

The opportunities for specific cooperative actions among planners, researchers, and extension personnel appear numerous. Some are set forth or implied by previous discussions. Additional ones can be listed here that hold promise.

One specific area is cooperation in providing the analyses and analytical base needed for decision making in a substate-region or local jurisdiction. Many states, such as Michigan, are heterogeneous. Some regions of the state differ greatly from others in terms of population, resources, economic base, and resulting public service problems and opportunities. The actions to improve public services that are most appropriate are usually regionally specific. Analyses are required to insure that the differences in problems and in opportunities to remedy those problems are accurately reflected in plans and actions.

A second area for cooperation, closely aligned with the first, is the design of specific research studies. It is not uncommon for researchers to design studies that are problem-oriented and meaningful but of limited applicability. It is possible that the design selected makes the results unnecessarily difficult to apply.

Planners and extension educators concerned with public services can make major contributions to research design. They can help with problem and opportunity identification and clarification. They can assist with questions of timing, jurisdictional differences, and policy choices. Also they can indicate in advance the governmental units, agencies, and groups that might make maximum use of the findings. If planners and extension educators are involved in research design, they will be concerned about progress of the research and stand ready to use its output in planning and educational efforts.

A third area for specific cooperation is development of a data base and data system for substate regions and local communities that will meet continuing analytical and decision-making needs. It is a documented fact that we are making increased demands on our rural area data systems. These demands have outrun our investment in their continued development. This trend must be reversed if we are to achieve effective rural development [9].

The substate regions provide a new, important statistical unit for the accumulation and presentation of various kinds of data and information. Use of these regions as common statistical units would permit federal and state data to be related directly to regional development problems and opportunities. It would also permit the accumulation of key supplemental information by regional and local governmental units and agencies.

In Michigan regional groupings of physical, economic, social, and legal information for planners, researchers, extension educators, public agencies, and other groups have been developed [8]. The feedback has been encouraging and indicates potential opportunities for additional data system improvements.

The design of educational programs for governing boards and commissions, advisory groups, and agency staff provides still another opportunity for specific cooperative action. For example, experience has shown that the more governing boards and commissions know a particular topic that relates to their actions, the greater the likelihood they will be effective decision makers. If they understand key trends, emerging issues, the causes of various problems, preferences of people about those problems, possible alternative courses of action, linkages among communities that may be important in selecting possible actions, and more, they will be well served and well armed for improved decision making. Such features can be designed into educational programs. Cooperation among the planner, researcher, and the extension educator involved with public services problems clearly increases the likelihood of effective program design and conduct.

The design and operation of a public service demonstration project presents still another opportunity for effective cooperation. In the past we have shown both skill and effectiveness in designing demonstration projects for crop production, livestock production, agricultural mechanization, and a variety of production, management, and marketing techniques and arrangements. It should be possible to utilize that skill and effectiveness in the design of public service demonstration projects. Community leaders, governing board members, other decision makers, agency staff members, and the public could come to observe. They could see and observe firsthand what can be accomplished through a consortium involving planners, researchers, extension educators, and operating agency personnel dedicated to improving public services.

There are still other opportunities for specific cooperative actions. Undergraduate and graduate students with appropriate faculty guidance can work directly with planning staffs as field interns on the range of public service problems. Planning staff members can join university research teams on a formal or informal basis to analyze problems and potentials regarding services. Extension specialists can serve in a liaison capacity between state or regional planning staffs and other extension educators to insure clarity and complementarity of roles. Similar liaison arrangements can be developed between planning offices and educational units involving both research and extension personnel.[9] Planning units can arrange with extension units to conduct educational programs required for effective citizen participation in plan development and implementation. Planning units can provide grants to research groups for objective analyses or contracts for the design of data systems of new data inputs. There are more.

The theme of this chapter is that there are potential high payoffs from a more substantive working relationship among researchers, extension educators, and planners. The opportunities for fruitful, cooperative relations extend from the federal level to the local level and encompass an array of individual public services, groups of public services, and the broader areas of community and rural development. Each professional effort can be strengthened by clear and orderly contributions from the other. The priority and emphasis given to forging such cooperative working relationships clearly could be increased with major benefits accruing to rural people and communities.

## FOOTNOTES

1. The Rural Development Act of 1972 (P.L. 92-419, August 30, 1972) was the first federal law exclusively devoted to rural development and separate funding for it.
2. North Carolina is one of several states that has benefited from surveys of local preferences. See for example, Christenson [4].
3. See for example, Christenson and Hamilton [5].
4. One could argue that, until recently, we have not really indulged in environmental planning, except as an offshoot of production planning.
5. For two reports on regions or districts, see Council of State Governments [7] and National Service [11].
6. See Chapter 5 in this book for Ostrom's discussion of effects of community size on planning and providing various public services.
7. See Chapter 5 and other publications by Ostrom.
8. For an excellent discussion of alternatives, see "Alternatives for Organizing Government" [1].
9. For example, a recent liaison arrangement, staffed by an extension specialist, between the Michigan Office of Land Use and Michigan State University's College of Agriculture and Natural Resources, proved highly effective.

## REFERENCES

1. Alternatives for organizing government. Providing public services in Missouri. Columbia: University of Missouri Ext. Div., MP 236, Disc. Leaflet 4, Sept.
2. Baker, J. A. 1973. Guide to federal programs for rural development. Washington, D.C.: U.S. Department of Agriculture, Aug.
3. Chappelle, D. E. 1972. The economics of environmental quality. Paper presented at the Midwest Forest Economists Meeting, Thessalon, Ontario, Sept. 1972. (Department of Resource Development, Michigan State University.)
4. Christenson, J.A. 1973. Peoples' goals and needs in North Carolina. Vol. 1, Through our eyes. Raleigh: North Carolina Agri. Ext. Serv. Misc. Ext. Publ. No. 106, Dec.
5. Christenson, J. A., and V. E. Hamilton. 1974. Rural urban health care in North Carolina. Vol. 7, Through our eyes. Raleigh: North Carolina Agri. Ext. Serv. Misc. Ext. Publ. No. 115, June.
6. Cooper, W. E., and R. D. Vlasin. 1973. Ecological concepts and applications to planning. In D. M. McAllister, ed., Environment: A new focus for land use planning. Washington, D.C.: National Science Foundation, Oct.
7. Council of State Governments. 1971. Sub-state district systems. Lexington, Kentucky, Sept.

8. County and regional facts (Regions 1-13). 1973. Michigan State University Coop. Ext. Serv., Michigan Department of Commerce, Office of Economic Expansion, and Executive Office of the Governor. Michigan planning and zoning survey (Regions 1-13 and Summary). 1972.

9. Economic Statistics Committee. 1972. Our obsolete data systems. American Journal of Agricultural Economics, 1972 Proceedings, Issue, 54 (5, Dec.): 867-75.

10. Koenig, H. E., and W. E. Copper. 1972. Design and management of environmental systems. Vols. I and II. East Lansing: Michigan State University, Sept.

11. National Service to Regional Councils. 1971. Regionalism: A new dimension in local government and intergovernmental relations. Washington, D.C., Sept.

12. Reeve, J. P., and R. D. Vlasin. 1970. Report to Governor Knowles by regionalism task force. Governor's regionalism task force for northeast and east central Wisconsin. Madison: Department of Local Affairs and Development, State of Wisconsin.

13. Vlasin, R. D. 1972. National economic considerations in land use. National land use policy objectives, components, and implementation. Proceedings of special conference sponsored by the Soil Conservation Society of America, Nov. 27-29, 1972, Des Moines, Iowa, pp. 43-54.

14. Vlasin, R. D. 1970. Report of the technical study group. Governor's regionalism task force for northeast and east central Wisconsin. Madison: Department of Local Affairs and Development, State of Wisconsin.

15. Wessel, R. I. 1970. Structure, change in rural government. In Jack Hayes, ed., Contours of change, The 1970 yearbook of agriculture. Washington, D.C.: Superintendent of Documents, pp. 154-58.

# LIST OF AVAILABLE PUBLICATIONS

NOTE: Books are available only from:

Iowa State University Press
Ames, Iowa 50011

Research reports may be requested from:

North Central Regional Center for Rural Development
107 Curtiss Hall
Iowa State University
Ames, Iowa 50011

## BOOKS:

Rural Development: Research Priorities. Iowa State University Press. Ames, 1973. (soft cover, 9" x 6", 113 pp.) ($2.95)

Rural Industrialization: Problems and Potentials. Iowa State University Press. Ames, 1974. (soft cover, 9" x 6", 153 pp.) ($4.95)

Communities Left Behind: Alternatives for Development. Iowa State University Press. Ames, 1974. (soft cover, 9" x 6", 151 pp.) ($4.95)

Rural Health Services: Organization, Delivery, and Use. Iowa State University Press. Ames, 1976. (soft cover, 9" x 6", 300 pp.) ($6.00)

## RESEARCH REPORTS:

Income and Employment Generation in Rural Areas in Relation to Alternative Farm Programs With Special Emphasis on the North Central Region. December 1973. (soft cover, mimeo, 8 1/2" x 11", 153 pp.) Free upon request.

(continued on next page)

The State of Social and Economic Development in the North Central Region of the United States. March 1974. (soft cover, mimeo, 8 1/2" x 11", 153 pp.) Free upon request.

Farm-Size Structure and Off-Farm Income and Employment Generation in the North Central Region. February 1975. (soft cover, mimeo, 8 1/2" x 11", 100 pp.) Free upon request.

An Annotated Bibliography of Rural Development Research in the North Central Region. April 1975. (soft cover, mimeo, 8 1/2" x 11", 229 pp.) Free upon request.

The Effect of Town Size and Location on Retail Sales. January 1976. (soft cover, mimeo, 8 1/2 x 11", 145 pp.) Free upon request.

North Central Regional Center for Rural Development programs are available to everyone without regard to race, color, sex, national origin, or age.